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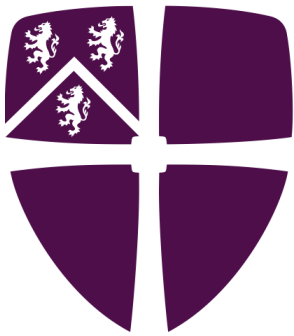
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*Devising New Models for
School Improvement
in
Developing Nations:
Sierra Leone, a case study*

Miriam Theresa Mason

A Thesis Presented

for the

Doctor of Philosophy Degree

At the School of Education, Durham University

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Abstract

Background and Introduction: This research describes the planning, design, implementation and evaluation of a Continuous Professional Development & Learning (CPDL) programme for schools in Sierra Leone, a low-income country with low educational standards.

Aims: The research aimed to: (i) assess evidence of EducAid schools' effectiveness; (ii) identify features of EducAid practice that government schools might adopt; (iii) design a CPDL programme for Sierra Leonean teachers; (iv) report the programme's impact on students' progress; (v) explore the possibility of programme delivery by local and largely untrained teachers; (vi) throw light on aspects of the programme that participants saw as strengths and weaknesses.

Design and Methods: Within an innovative quasi-experimental design, an impact evaluation drew on data from five intervention and ten comparison schools, and a process evaluation drew on data on information from programme participants and the trainers. The impact evaluation was based on public exam results, literacy test scores and attendance data collected pre- and post-CPDL. Process data included information from lesson observations, semi-structured interviews, focus groups and a post-intervention evaluation workshop.

Results: The impact evaluation showed larger improvements in student attendance and literacy test results in the intervention schools than in the comparison schools. The process evaluation identified challenges in embedding changes in pedagogic practice, and in data collection. However, it also identified consistent evidence of improvements in student behaviour. These were supported by head teachers and community groups and were seen as a necessary but not sufficient condition for the literacy score improvements.

Discussion and Conclusions: Discussion focuses on how far the six aims were met and on how the research adds to understanding of CPDL and school improvement in a low-income country. The impossibility of randomisation in sample selection prevents any strong causal claims for the CPDL's impact. The possibility of a larger scale roll-out is considered, subject to changes in the programme suggested by the process evaluation.



Contents

Abstract	1
Contents	3
Copyright, Acknowledgements, Dedication	6
Section 1 - Introduction	7
1 Introduction	8
Section 2 – Literature Review	14
2 1 – School Effectiveness & Improvement – Social & Cognitive Aims of Education	15
3 2 – School Improvement – Professional versus Business Capital Approaches & CPDL	33
4 3 – Education in Sub-Saharan Africa with particular reference to Sierra Leone	50
5 4 – Emerging research aims	69
Section 3 – Justification of and Construction of a CPDL based school improvement programme	73
6 1 – Is there robust evidence that EducAid schools were unusually successful in their students’ academic achievements and / or in catering for their social needs?	74
7 2 – The transferable and non-transferable features of EducAid’s practice	87
8 3 – Intervention design (rationale & development); description of intervention; delivery planning	103
Section 4 – Design & Methods	124
9 1 – Design of the Evaluation of the School Improvement Programme	125
10 2 – Pilot study and the implications for the main study	152
11 3 – Ethical considerations	165

C.	Participations Information Sheet & Declaration of Informed Consent & Declaration of Informed Consent for Child participants	
D.	Research Proposal Summary for Ethics Approval Application	
	Appendix 12	344
A.	Summary of t-tests using change scores comparing all the intervention schools	
B.	Two-tailed T-tests comparing Time 1 literacy test scores in Project Y and M1 & Project Y & M2	
C.	T-test comparing mean Time 1 and Time 2 literacy test scores & change scores for girls' and boys' literacy tests in Project Y schools	
D.	T-test comparing mean change scores in classes 1 – 3 and classes 4 – 6 literacy tests in Project Y schools	
E.	SPSS read out for ANOVA regression test comparing post-test (Time 2) scores in Project Y schools with post-test scores in M1 schools while holding pre-test Y score constant.	
F.	SPSS read out for ANOVA regression test comparing post-test (Time 2) scores in Project Y schools with post-test scores in M2 schools while holding pre-test Y score constant.	
	Appendix 13	348
A.	Project Y Schools – lesson observation elements measured at Times 1 and 2 and % change between two times	
B.	M1 Schools – lesson observation elements measured at Times 1 and 2 and % change between two times	
C.	M2 Schools – lesson observation elements measured at Times 1 and 2 and % change between two times	
D.	Schools – % change in lesson observation elements measured between Times 1 and 2	
	Appendix 14	352
A.	Table showing % change between Times 1 and 2 in lesson observation elements in Y Project schools	
B.	Table showing % change between Times 1 and 2 in lesson observation elements in M1 schools	
C.	Table showing % change between Times 1 and 2 in lesson observation elements in M2 schools	
D.	Table showing % change between lesson observations at Time 1 and at Time 2 in Y Project, M1 & M2 schools	
E.	Detail of elements of lessons observed in Project Y, M1 and M2 schools that may have been affected by the national lesson plan manual initiative	
F.	Detail of elements of lessons observed where Project Y schools seem to have improved	
G.	Detail of elements of lessons observed where Project Y schools did not improve	
	Abbreviations	360
	Glossary of EducAid terms	361
	Statement on co-authored publications arising from this thesis	362
	Other publications informed by this thesis	363

Copyright

The copyright of this thesis rests with the author. No quotation from it should be published without the author's prior written consent and information derived from it should be acknowledged.

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My thanks to all of you for your patience, kindnesses and support from near and far.

Dedication

I dedicate this work to EducAid and to Sierra Leone, to those youngsters with whom we work. With all the blood, sweat and tears that went into this thesis, I commit to fighting on for a better future through education for all of them and in particular, with all my love, for Kofi and Nancy.

n.b. Permission has been obtained with signed parental/guardian consent forms for the use of the photos – for which, my thanks.

Section 1

Introduction



1

Chapter 1

Introduction

This research seeks to provide answers to questions about how to improve the quality of education provision in Sierra Leone. Millions of pounds, dollars, euros and more have been spent on education improvement. Enrolment and access have improved. Quality has not. This study describes the design of an innovative CPDL based school improvement programme that addresses support to cognitive and non-cognitive student outcomes. The programme is evaluated using an innovative quasi-experiment.

a. An overview

This research analyses and evaluates a recent stage in the development of a small non-governmental education organisation in Sierra Leone in West Africa. Following a student exchange visit by University College London students to Njala University, EducAid was established in 1994 as a sponsorship programme for eight students that James Boardman and Swithun Mason had met while in Sierra Leone. In 1997 I visited the sponsorship programme which had by then grown to provide school costs for over fifty students, only to discover that the schooling that was being paid for was not achieving any of the aims of education. Classrooms were overfull (70, 80, 90 or more students in one class) and were often without a teacher because teachers had not been paid for months. Sponsored students regularly failed every one of their public exams and the charity came to the conclusion that it needed either to stop its activities or do something with much greater control over the quality of provision. From this point, it was clear that the aim would be to provide the quality of education that would enable young people to take their first steps out of poverty and would also train them in citizenship values of integrity, community spirit and more.

I moved to Sierra Leone to establish our first junior secondary school. Although this school opened with only 20 students on 18th September 2000, the programme grew fairly quickly and within three years had over 1000 students. The need for good quality, free education was enormous after an eleven-year war which deprived thousands of children of their education (Bu-Buakei Jabbi, 2007). All schools at the time were fee paying but EducAid's

“fees” were (and remain) excellent behaviour, excellent attendance and excellent effort (EducAid, 2017) making it possible for even the poorest to attend. EducAid had six well established schools, one primary, three junior secondary and two senior secondary when it first received requests to support other schools in improving the quality of their teaching and learning. At the time the research began, this number had grown to 12 schools across eight sites, comprising of 5 primary schools, five junior secondary schools and two senior secondary schools. All EducAid schools have an admissions policy giving priority to the most disadvantaged children and young people in one of the poorest countries in the world (UNDP, 2018). The research originated in a request from other schools in Sierra Leone that EducAid staff help them improve. This subsequently evolved into a request for the provision of a whole school improvement programme comprising a continuing professional development and learning (CPDL) programme for teachers, school leaders and relevant Ministry officials as well as associated interventions with other key stakeholders. However, the request raised two fundamental questions. The first concern was, did EducAid actually have evidence that its schools were unusually successful in their students’ academic achievements and/or in catering for their psychosocial needs? If not, it could arguably be unethical to offer support of this kind to other schools. Secondly, was it possible to identify features of EducAid schools that could be applied in government schools? EducAid being an independent and privately funded organisation was not constrained by the same regulations as some of the government schools that were asking for help. Some features of EducAid are simply not transferable to other schools. Section 3 explains the methods used to evaluate EducAid’s competence and justification in responding positively to the request, reviews the transferable and non-transferable features of EducAid’s practice and describes the construction of an appropriate school improvement programme.

In consultation with my Sierra Leonean colleagues, I was responsible for this design, just as I had been responsible for designing the EducAid ways of working from which the programme learned. An important part of the design of the CPDL programme, however, was that EducAid’s Sierra Leonean staff could deliver it. As explained in more detail in the methods Chapter 8, delivery by Sierra Leonean staff would make the programme more credible to Sierra Leonean teachers and therefore more sustainable and cost-effective. Because they would deliver the programme, EducAid staff would also be responsible for collecting data on responses to it. However, of the ten staff involved, only one had a degree and a higher teacher’s certificate, two held teaching qualifications and the others were secondary school

graduates still under-going their post-secondary studies with only informal teacher-training. None had any research experience except the degree holder who had conducted a small empirical research project for his final dissertation. All the staff were former EducAid pupils.

Accordingly, the aims of the research are:

1. To assess critically the evidence that EducAid schools were unusually effective in their students' academic achievements and/or in catering for their psychosocial needs.
2. To identify which, if any, features of EducAid schools might be adopted in government schools.
3. To design a school improvement programme based on CPDL suitable for use in the Sierra Leonean resource constrained context.
4. To obtain and assess evidence showing whether students' performance had improved by the end of the school improvement CPDL programme and at follow-up.
5. To identify problems and possibilities associated with well-motivated but largely untrained teachers delivering school improvement programmes, and collecting data for an evaluation, with only arms-length supervision from the Country Director.
6. To throw light on aspects of the programme that the teachers, pupils and other stakeholders experienced as strengths and weaknesses of the programme.

b. Significance of the study

Background to education in Sierra Leone since the war.

Sierra Leone was devastated by an eleven-year war (1991-2002) that destroyed most of the country's education infrastructure and undermined whatever credibility the teaching profession had retained to that point (Sawyer, 2010). In line with global trends, the Education For All (EFA) and Universal Primary Education (UPE) (UNESCO, 2000) drives were impactful and school attendance did gradually improve. UNESCO - UIS data indicate that Sierra Leone and Senegal actually outpaced other countries in Sub-Saharan Africa in improving equity in enrolment, attendance and completion in secondary education in the 18 years after the war (UNESCO-UIS, 2019). However, post-war education rehabilitation tended to focus on rebuilding schools rather than improving the quality of teaching. While enrolment has increased, little has been done until quite recently to address the significant quality challenges. In line with Sub-Saharan African regional experiences more generally, Sierra Leone continues to produce students who have completed all the primary school

years (and often secondary school too) yet can still neither read nor write fluently. This is evidenced by the 2017 Secondary Grade Learning Assessment which found that *'large proportions of ...secondary ...pupils do not demonstrate more than basic English and maths skills'* (Government of Sierra Leone: Ministry of Basic and Secondary Education, 2017 p38).

Sierra Leone, consequently, has an adult literacy rate of 32.4% (UNDP, 2018). Low literacy levels have an impact on economic development and on democratic engagement.

Additionally, those who are semi-literate or illiterate feel substantially marginalised by government with a resultant mistrust between the governed and the governing class. In turn, this results in instability and a vulnerability to crises (Sisay, Hitchen, & Paice, 2018).

This is a reality in Sierra Leone but much of Sub-Saharan Africa is in the same situation, for similar reasons to those that have created tensions in Sierra Leone. If this research indicates that a holistic, whole school community, values-led approach is associated with meaningful improvement, it could potentially be of use in other parts of anglophone and even francophone Sub-Saharan Africa.

EducAid Sierra Leone.

EducAid is a small, education-focused, not for profit organisation that started as a sponsorship programme during the war and opened its first school in 2000. Based on the conviction that education is the solution to all of the challenges outlined above, EducAid set out to deliver on a vision of *'a dignified, democratic and globally-engaged Sierra Leone where poverty is eradicated by educated citizens'* as illustrated in the figure 1.1 (EducAid, 2017). Initially through a growing number of its own schools, EducAid sought to provide the quality of education that would enable young people to take control of their own lives and to take the first steps out of poverty. The initial sponsorship programme had, in line with national statistics, failed to deliver the necessary quality for a change in their life chances. The children that EducAid sponsored had their fees paid but this did not guarantee them an education.

Figure 1.1 EducAid's stated vision and values .(EducAid, 2017)



With time, EducAid grew and was contracted to run a number of schools for other organisations. At one stage EducAid was serving over 3000 children. At the same time as the sustainability of funding for this growing network of schools was becoming a serious challenge, the request to support other schools created a new way to have a broader impact. Returning to its original vision and asking some difficult questions about how most efficiently to achieve it, EducAid started to work towards a new strategy of outreach school improvement programming. This meant transferring responsibility for six of eleven schools to the government. By focusing on the remaining five schools as role-model establishments, EducAid sought to position itself alongside the school leadership and management of a growing number of government schools as a provider of structured training and support to improve the quality of teaching and learning. This programme is called the Quality Enhancement Programme (QEP). EducAid hoped to therefore have an impact on many thousands more children than the six schools given to the government. Testing the efficacy and sustainability of the programmes would, however, become increasingly important. The research described in this dissertation formalises the investigation into the school improvement programme's core elements. It identifies plans for the next stage of research-led planning to implement and strengthen the programme.

c. Structure of the thesis.

The structure of the dissertation is as follows:

Section 2 reviews relevant literature in Chapters 2-4, concluding with a more detailed statement of aims and objectives arising from the literature in Chapter 5. Section 3

(Chapters 6-8) explains the justification for EducAid providing a structured school improvement programme based on CPDL to other schools, and describes construction of the programme. While this forms part of the research for this dissertation, it should be seen as background information to the main study, which reports the delivery and evaluation of the programme. Section 4 (Chapters 9-11) describes the design and methods, including lessons learned from a pilot study. Section 5 (Chapters 12-14) reports the results and Section 6 (Chapters 15-17) discusses the results, ending with a chapter of conclusions. In the next chapter I begin the literature review with an analysis of the cognitive and non-cognitive purposes of education.

Section 2

Literature Review



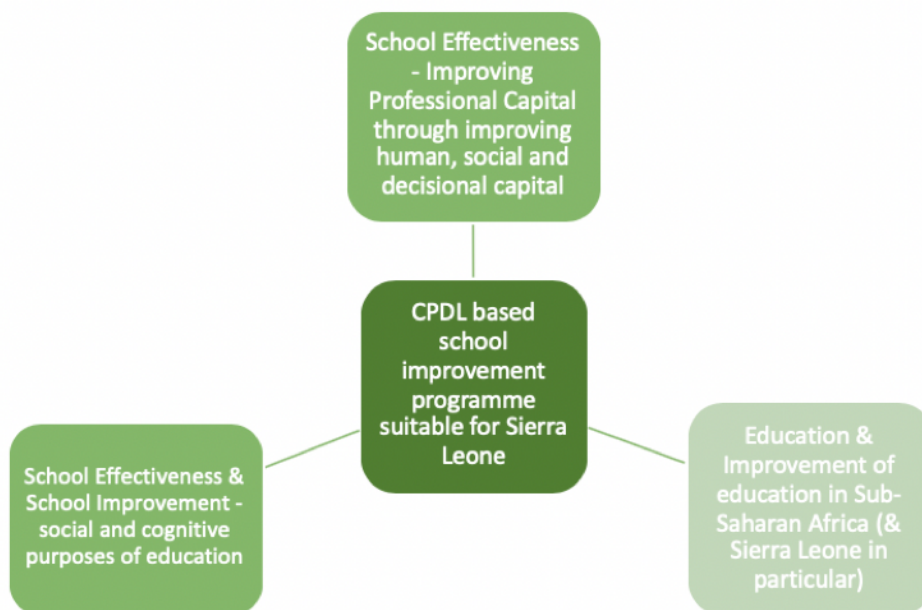
Chapter 2 - Literature Review (1)

School Effectiveness & School Improvement: Social & Cognitive Aims of Education

d. Introduction.

Because of the breadth of the issues addressed in this study, the literature review is organised into three chapters. Chapter 2 reviews literature focusing on school effectiveness and improvement with a particular acknowledgement of the need to address both the social and cognitive aims of education and the challenges this presents due to the lack of measures for social development. Chapter 3 reviews literature focusing on school improvement with a discussion of different approaches to improving professional capital, reviewing the implications for the design of a CPDL programme in Sierra Leone of the need to build social, human and decisional capital (Hargreaves & Fullan, 2012). Chapter 4 reviews literature on education in Sub-Saharan Africa and Sierra Leone in particular. It reviews the particular challenges faced in Sub-Saharan Africa with regards improving education quality. Together they facilitate an understanding of what a strong CPDL based school improvement programme suitable for Sierra Leone might look like. Figure 2.1 illustrates the point.

Figure 2. 1 - The contributions of the three literature review chapters to the design of a CPDL programme suitable to address school improvement in Sierra Leone



Each chapter makes its own contribution to understanding the probable necessary considerations to be included when designing a CPDL based school improvement suitable for a resource-constrained context of Sierra Leone. Chapter 2 establishes the importance of giving attention to both social and cognitive aspects of education. Chapter 3 deduces a need for the inclusion of inter- and intra-school collaboration as well as support of reflective practice in order to develop professional capital at the level of the teacher, the school and the school system. Chapter 4 examines the particular context of education systems in Sub-Saharan Africa and the likely adaptations required for a CPDL programme to work in Sierra Leone.

This chapter reviews literature relating to school effectiveness and school improvement. The literature makes clear the need for both the social and cognitive aims of education to be addressed in order for both schools and school improvement programmes to be effective. The chapter concludes with a discussion of the relevance of the mainstream western school effectiveness and school improvement literature for teacher development and school improvement in Sierra Leone.

e. The Purpose of Education

Cognitive and non-cognitive aims of education

There is a longstanding consensus that the purpose of education is more than passing on knowledge. Dewey, (1916) believed that individuals can grow within the education system and at the same time learn to serve the purposes of democracy. (S. M. Barrett, 1932) argued further that education is preparation for life and that teachers are responsible for their pupils' physical, mental and moral development. Postman & Weingartner (1969) found that the purpose of education was essentially to improve society and help it escape crises they felt threatened the survival of humanity. Barrett saw schools as needing to facilitate personal development, whereas Dewey, Postman & Weingartner saw education as having a broader purpose for society. Postman and Weingartner saw education as a tool for society's salvation and not simply the growth of personal abilities. They essentially provided a rationale for education to develop personal strengths: there is a need for one's critical thinking and analytical skills to be developed in order to save society from itself. They argued that it is the purpose of education to prepare young people to challenge the status quo and interrogate the institutions they meet. Challenging the status quo, though, requires moral judgement. This raises a question about the obstacles to the kind of critical thinking

that Postman and Weingarten call for in contexts that do not encourage genuine informed democratic engagement.

Challenges despite the consensus

Outlined below are a number of challenges to the actualisation of this reality:

- *Education of the oppressed and the oppressor*

Despite the consensus, there are powerful obstacles to realising this sort of education. For Freire (1970), in the Brazilian context of significant wealth disparity, the humanising purpose of education was particularly acute. He saw the underlying purpose of education of the oppressed as a way for them to reject and overcome their oppression while not emulating the oppressor. The need is not for a systematic education that must by definition be provided by the dominant class (the oppressors) and thus will never serve the purpose of freeing the oppressed. Rather, the need is for education programmes through which the oppressed devise their own models and targets. Education for Freire is almost synonymous with revolution, although for the oppressors, to be educated is realising that participating in oppression de-humanises them.

Edelsky (1994) argued, rather as Freire did, that styles of education will either subvert or uphold the systems that entrench the dominance of the wealthy over the poor, the powerful over the powerless. Freire wrote about Latin America whereas Edelsky's writing addressed the American education system, but they reflect a common understanding of how good pedagogy can empower learners. In societies such as Sierra Leone's, the social justice aspects of education tend to relate to alleviating the economic burden and disempowerment of illiteracy. There is little consciousness of skills such as the critical engagement and awakening discussed by Edelsky. Even within the large international donor-driven programmes, improvement focuses on literacy and numeracy with little or nothing on how relationships occur within the classroom or the school, or any challenge to social norms (Ministry of Education, 2017). In Freire's and Edelsky's analyses, one cannot separate pedagogy from content, for pedagogy will either subvert or uphold unjust societies. In a context of significant inequality, they both argue for a pedagogy that awakens learners' abilities to subvert, challenge and change the status quo.

- *Conformity and democracy*

There is a tension between conformity and democracy. Democracy requires an ability to think critically and maintain one's individuality; conformity is required for social cohesion. It is hard to find the balance between enabling the young to conform to their society versus developing their individual ability to perceive and judge for themselves (Rockler, 1932). Dewey (1916) strongly believed in democracy in education and that individuals can simultaneously grow within the education system and serve the purposes of democracy. Even Gray, (2008) who actively celebrated what he termed the 'wilfulness' of children which allowed them to succeed in earlier societies, acknowledged that there is some need to moderate this with a level of conformity. Gray (2008), among others, saw modern schooling as curtailing a child's 'wilfulness' which was in earlier times the source of their success. Balancing needs and strengths in developing the individual versus serving the needs of society, creates a false dichotomy. Many, who are not schooled to conformity as in much modern-day schooling, still grow up to be well-balanced, successful adults who fully contribute to society.

- *What is measurable?*

It is easier to measure success against a conformist agenda. A set agenda means an end to the question of what to measure. If everybody takes a different route, then who defines success? The need to measure seems to focus the activities we engage in (Borgonovi, Hitt, Livingston, Sadoff, & Zamarro, 2018). Nagaoka et al, (2015) among others, warn about the lack of development in the science of measuring education's social aims (Nagaoka, Farrington, Ehrlich, & Heath, 2015). Clear pathways of progress in non-cognitive aims of education as well as scientifically tested measures are still lacking. The potential misuse, they argue, is almost as large a danger as the complete lack of these measures. Misuse can result in faulty data and attribution of inappropriate significance to statistics leading to misdirection of resources and efforts.

Throughout the literature, there is discussion of education needing to provide for more than cognitive development. There must be opportunity for holistic development and for young people to become life-long learners, engaged citizens and positive contributors to society. However, there is no definitive list of non-cognitive aims or guidance on how to prioritise them. Maybe this is because of the breadth and variety of contexts and cultures across

which education is provided. Stringfield & Teddlie (2012 p 381) observed that the debate over the aims of education and what in a school is to be measured to demonstrate that it is achieving its aims has '*often produced more heat than light.*'

There is broad consensus that the aim of schooling is to provide an environment and opportunities in which young people can learn to develop cognitively and socially in and after leaving school. It is important therefore to understand how effective schools are at delivering this.

- *Relevance for teacher development and school improvement in Sierra Leone*

Programming in Sierra Leone must address schools' and teachers' ability to provide for children's cognitive and non-cognitive needs. Neglect of one will reduce the impact on both. How to measure success in providing opportunities for children's non-cognitive development will be as much an issue in Sierra Leone as anywhere else. Poor measures result in misunderstanding data which risks a focus on fruitless endeavours and a waste of scarce resources.

f. School Effectiveness

School effectiveness, argued Reezigt & Creemers (2005), is focused on what works and why. Hopkins, (1990 p182) found that '*for a school to be called 'effective' within a certain cultural context, [it must be] (i) accomplishing the best possible pupil outcomes (defined in both individual and societal terms); with (ii) as little wastage of pupil talent as possible; and with (iii) efficient use of means.*' Hopkins' concern recognised different needs within different cultural contexts. Appropriate 'pupil outcomes' are culturally determined, and children's needs are dependent on their cultural context. How cultural contexts dictate what the 'best pupil outcomes' are to be, is a matter of much political and policy debate.

School Effectiveness Studies

The Eight-Year Study (Aikin, 1942) described the methods, findings and conclusions of an eight-year longitudinal study involving 30 schools. The study aimed to demonstrate that a more arts focused, trans-disciplinary curriculum in which teachers and school leaders would work together with more respectful relations, would better prepare students for life. Some saw this study as disastrous and concluded that it failed publicly and dramatically as the difference between the grades of the comparison students versus the 'special' students

involved in the project was negligible (Stringfield & Teddlie, 2012). At the time, the report itself concluded that those that had experienced the progressive curriculum achieved equally, or only a little higher, on standardised tests as those who had not. However, they had also acquired a range of other skills and competences relevant to a full and rounded experience of education (University of North Carolina Press, 1942).

The Eight-Year Study (Aikin, 1942) focused on America's contemporary concerns: the failure of most high schools to simultaneously educate students well for life and for college entrance. The call for schools to prepare children for more than exams is fundamental but not yet achieved in even the most developed country contexts. While the school improvement movement can be said to have started in America, this work was of global interest and significance.

In 1966, Coleman et al (1966) found that socio-economic factors determined students' outcomes and that schools could have little impact. This prompted a renewal of interest into what constituted an effective school, and a number of studies were undertaken.

While not the only reason school effectiveness research resumed, the much-cited Coleman Report was one spur to action because of its controversial findings that neither teacher nor school could really change student outcomes. Large numbers of educators refused to be satisfied with the report's conclusions and set about proving it wrong with considerable energy (Stringfield & Teddlie, 2012).

In 1970, Weber, (1970) conducted research into four inner city schools which were successful in teaching early grade reading. He concluded that there was a list of common factors across the successful schools.

A further, more sophisticated study (Madden, Lawson, & Sweet, 1976) compared 21 pairs of schools and confirmed Weber's findings. Both studies emphasise the importance of:

- a. strong leadership
- b. high expectations
- c. a positive atmosphere
- d. regular monitoring &
- e. a strong focus on learning and basic skill acquisition

A further study by Brookover & Lezotte, (1979) investigated eight elementary schools, six of which had improving children's standards and two of which had declining standards. This research drew similar conclusions to those of Weber (1970) and Madden et al., (1976), and added to the existing list of factors that characterise improving schools:

- f. good home-school relationships &
- g. a clear whole-school mission and strong teacher accountability for achieving it

These lists were produced through comparative case studies and observation over a period of time of the common characteristics of effective schools. The studies challenged the findings of the Coleman Report on Equality of Educational Opportunity (Coleman et al., 1966). With its conclusions that socio-economic factors, not schools, largely determine student outcomes, the Coleman report implied a limited role for schools. In contrast, the conclusion of these subsequent studies that '*schools can and often do make a difference*' (Stringfield & Teddlie 2012 p381) was more appealing to educators. These studies also provided the impetus for attempts to improve schools so they could improve their impact on the course of children's lives.

The characteristics established in the 1970s by Brookover & Lezotte, (1979); Madden et al., (1976); Weber, (1970) continue to be identified as the key aspects of school effectiveness, with some later additional concerns relating to data storage, analysis and management (Bryk et al, 2010; Stringfield & Teddlie, 2012). However, of the seven factors identified, few are easily measured. Tools and proxies need devising to support a full understanding of success in each field. The debate continues about what is to be measured and how.

The focus on what is measurable

When things can be measured they can be compared. Stringfield and Teddlie (2012) cite the example of the British league tables which ranked schools by their General Certificate of Secondary Education (GCSE) grades. Students, schools and parents opted for easier subjects, avoiding the harder to attain English and Maths so more children could obtain more good GCSE grades. The league tables had to be readjusted to take this into account so only results including English and Maths were reported. Schools had to adjust their practice again. In recent years the emphasis has been placed on English and Maths, often to the detriment of other subjects (Stringfield & Teddlie, 2012). What is measured and reported on drives policy and practice.

Comparisons of school effectiveness often focus on easier to define and measure cognitive outcomes such as test scores or exam results, which then become the focus of parental and governmental enquiry as well as international data collection. What is easy to measure becomes the only thing to be measured and thus prioritised (Zhao, 2016). For a more accurate picture one must evaluate across a broad range of educational aims. An effective school must be achieving on many fronts.

From the criteria outlined by Ofsted¹ for school inspection, to the research by Zhao that outlines the importance of balancing cognitive and non-cognitive functions and the corresponding losses when these are not balanced, it is clear in literature and practice that both academic and social functions must be prioritised.

Zhao (2016) identified four key areas of damage when cognitive achievement is over-emphasised:

1. *The Rise of the Undervalued: The Importance of Diversity*
2. *Job Creators, Not Job Seekers: The Importance of Creativity and Entrepreneurship*
3. *Globalized World, Globalized Economy: The Need for Global Competency*
4. *When the Floor Becomes the Ceiling: Mediocrity vs. Greatness* (Zhao, 2016 p1)

In recognising the dangers to be avoided, he identifies by implication other important aims of education. I extrapolate from Zhao's list of dangers that instead, schools need to:

1. *provide opportunities across a broad range of disciplines and competences. Schools need to encourage and provide for diversity and not homogeneity. The subjects and areas of skill that are often neglected need to be made available. A diet of maths, English and science neglects the creative disciplines and the development of important opportunities for diversity. Society needs a variety of talent and ability.*

¹ In the UK, a school is assessed by the Office for Standards in Education (Ofsted) against four main categories:

- *effectiveness of leadership and management*
- *quality of teaching, learning and assessment*
- *personal development, behaviour and welfare*
- *outcomes for children and learners* (Ofsted, 2015)

2. *provide opportunities for the development of creativity and entrepreneurial '21st century skills.'* A healthy society requires its citizens to have a range of transferable skills and attitudes.
3. *engage and interact with realities and people across cultural and linguistic boundaries. Particularly in a period of intolerance and division, exposure to people that are different enables children to see that what unites us is far greater than what separates us.*
4. *provide opportunities for children to demonstrate their greatness and ability to excel and not their ability to conform to mediocre expectations. Focusing on standardised tests encourages children to conform to the expectations of those devising the tests. They cannot go beyond 100% or even go in a different direction. Without disengaging from the general flow of their colleagues, conformity and compliance are the only options. There is no scope for excellence.*

Zhao (2016) effectively proposed an alternative lens through which to examine effectiveness.

Nixon & Comber, (2012) cited a teacher who eloquently expressed how current measures failed to value what any clear minded educator wants to celebrate: tests for running assemblies, mediating playground conflict and so on do not exist.

The challenge is in standardising non-cognitive achievements. In another context the creativity that this teacher celebrates in her students would be impossible but might be replaced by running a programme to teach out of school girls to read or by designing a mural for a community building or by organising a team to clean the beach or by innumerable other things. A school that can encourage such actions and attitudes, and create an environment for creativity, independence and citizenship to be fostered is certainly likely to be a good and effective school. But how do we standardise the relevant indicators and measures?

Despite the consistent acknowledgement that both the cognitive and non-cognitive aims of education must be developed, few studies have focused on both academic progress and behavioural issues. Noteworthy exceptions were two seminal projects in London, in which data on behaviour and educational progress were collected:

- Rutter, Maughan, et al., (1979) found that the behavioural and social outcomes for children were influenced by the social ethos of the schools they attended.

- Mortimore et al., (1988) recorded students' self-esteem, behaviour and attendance as well as progress in literacy and numeracy.

Mortimore et al found that the school that children were attending was a better predictor of their educational progress than their social background. They also found that the outcomes were linked: where there were good non-cognitive outcomes there tended also to be good cognitive outcomes and vice versa. In contrast to the Coleman Report (Coleman et al., 1966), Rutter et al., (1979) found that, even though the family background has a substantial influence on attainment, the school could make a significant difference to children's progress, and an even more striking difference to their behaviour.

School effectiveness is complex and although there is no conclusive definition, broad themes focus on preparing young people for tomorrow's world and providing opportunities for holistic development. To ensure a school is achieving this, Hargreaves and Fullan, (2012) identified the importance of collective responsibility, where teachers work together in a spirit of friendly rivalry or 'collaborative competition'. Unity of purpose across a whole school and, as they argue, across a district (or at least a network of schools) creates an environment in which schools can become truly effective.

Relevance for teacher development and school improvement in Sierra Leone

The challenge of measurability leads to a focus on cognitive outcomes, even though the literature clearly suggests a correlation between cognitive and social outcomes (Rutter, et al 1979). It also seems likely that excellent behaviour and relationships are probably a necessary condition for good cognitive outcomes, but on their own they are insufficient (Galloway, 1995). Within the Sierra Leonean education system there is so little data that any improvement in record keeping represents progress; however, it will be important to ensure that the global drive for cognitive-focused outcomes does not overwhelm any school improvement programming to the detriment of non-cognitive concerns.

g. School Improvement

If school effectiveness is about describing the ability of an institution to serve the needs of its students, school improvement is about the processes required to ensure that the school (and increasingly the system) achieve and maintain school effectiveness (National College for Teaching and Leadership, 2011). There is a difference however between knowing the characteristics of an effective school and helping schools become effective. Telling a head-

teacher they must focus on improved literacy, for example, does not enable them to achieve this goal. The debate therefore centres upon how to apply school effectiveness research for real school improvement.

Problems in applying school effectiveness research include the need to separate causes from effects of effective schools, and is one key to translating the research into meaningful support interventions. Rutter et al., (1979) found that pot plants were more often found in successful schools. Galloway and Edwards (1991) noted reports of heads, in emulation of these successful schools, buying pot-plants. The fact that pot plants do well in successful schools is may be an indicator and consequence, not the cause, of an ordered environment, conducive to good learning.

School Improvement Studies

The review by Feldhoff, Radisch, & Bischof (2016) noted numerous strategies for assessing the need for school improvement, for undertaking school improvement and for researching the efficacy of school improvement programmes. They found no standardisation of any of the processes or indeed the theoretical frameworks underpinning school improvement. This was due to the extraordinary complexity of the endeavour, with contributing factors including:

- *longitudinal nature of school improvement*
- *the indirect nature of school improvement*
- *school improvement as a multi-level phenomenon*
- *the reciprocal nature of school improvement*
- *differential paths of development and nonlinear effects*
- *variety of meaningful factors* (Feldhoff et al., 2016 p 9,10)

Longitudinal nature: Because research on school improvement is the examination of change over time, studies must be longitudinal. Frequency and timing of measurement points, as well as the constancy of measurement types, must be considered.

Indirect: All changes must be internalised and personalised by teachers before the impact can be seen on student outcomes.

Multi-level: Change must happen on many levels: with teams and departments, individual teachers and with students.

Reciprocity: One change may require other changes as different components within the organisation are interdependent.

Non-linear and differential paths: Different schools improve and progress in different, and often non-linear ways.

Variety of factors: Schools are complicated institutions with many contributing stakeholders. Their improvement can vary widely even within one school; therefore, all factors must be considered for an accurate picture.

In summary, they argued that these ingredients need adequate consideration for full understanding of the complexity of school improvement research and designing school improvement research methods and tools.

Of 428 journal articles that matched the original search criteria Feldhoff et al., (2016) only selected 13 for analysis because they demonstrated awareness of the six domains outlined above. This demonstrates how few studies and programmes adequately recognise the complexity of school improvement.

Glatter (2012) argued strongly that the international focus on competition and choice has not had the impact on improvement that was promised by the proponents of neo-liberalism with their “*belief that the market is the only legitimate allocator of goods and services in society at large [and] not just in the economy*” (Battin, 1991 p296).

Glatter, (2012), and Hargreaves & Fullan, (2012) argued that business and free market thinking have driven the marketisation of education and resulted in short-lived improvement in only a few schools. Demirjian, (2013) further concluded that marketisation has failed to improve schools or the education system. Marketisation has reinforced socio-economic inequalities and made tackling social and educational inequity even more difficult. Hargreaves & Fullan, (2012) find that marketisation has encouraged a focus on piecemeal improvement of certain institutions, rather than on large scale, systematic improvement to ensure the provision of a good quality education for all.

Much school and system improvement policy change is prompted by responses to PISA scores. As these scores focus on student science, maths and literacy, the policy changes also tend to focus on fixing issues in these fields, ignoring the equally important social aims of education (Borgonovi et al., 2018). Focusing on improved student cognitive outcomes too often leads to neglecting other core aspects. The political drive to raise standards led to a

focus on cognitive outcomes through the emphasis on market forces, thus ignoring one of the key lessons from the school effectiveness literature that indicates that improved social and cognitive outcomes are strongly linked (Rutter et al., 1979).

h. Are the debates and learning around school effectiveness and school improvement relevant to low-income countries?

All the studies that Feldhoff et al. (2016) refer to were in western contexts. A considerable knowledge gap exists in terms of appropriate research around effective school improvement in low-income countries and even more so in Sub-Saharan Africa and in Sierra Leone.

Feldhoff et al (2016) provide a framework for the examination of school improvement and conclude that, to understand real change, longitudinal studies need to be designed that take full cognisance of the extraordinary complexity of school improvement.

The emergence of international studies and indices provides the possibility of much larger scale comparisons and facilitates the move towards a focus on systemic change (Hargreaves & Fullan, 2012; Hopkins, et al 2014). However, whereas these trends are evident across many high-income countries, they are less present in lower-income country contexts. In some countries, the teaching profession and thus the professionalism of teachers have been so systematically undermined that the school level engagement with improvement has been a concern for only a tiny minority. Sierra Leone exemplifies this reality (Nishimuko, 2007). For example, action research in most low-income country contexts is nearly impossible. Where the teachers are paid spasmodically, if at all, and corruption in school leadership and school inspection is rife, it is difficult for teachers to acknowledge the need to improve even if the route to improvement were clear. Sierra Leone is a clear case in point (Nishimuko, 2007). As discussed in later chapters, any expectation of engagement with demotivated teachers in projects involving action research is unrealistic and doomed to failure. Building relationships of trust and support is a necessary prerequisite. On the other hand, where there is less governmental control and thus ability to insist on universal implementation of governmental initiatives, there can be a greater freedom to achieve some improvement in standards by working on more grass roots endeavours (D. H. Hargreaves, 2001). If this is the case, then the relationships are worth investing in so teachers can be encouraged to engage actively in such projects.

Some studies exist but tend to lack the complexity Feldhoff et al (2016) prescribe for full appreciation of the complexity of school improvement. Research undertaken by Bold et al

(2017) across Sub-Saharan Africa provides interesting insights but is not longitudinal. As Feldhoff et al (2016) point out this may inform an understanding of a school's effectiveness but cannot be equated with an evaluation of school improvement.

Inequalities between countries and regions make the evolution of one united school of thought with regards to school improvement or measures of success both difficult and possibly even inappropriate. A few of the starkest differences are described below.

Basic resources.

Townsend (2012) notes the futility of comparing countries that have had a public universal education system for over 140 years with some with such a system only 20 years old or less, as well as some countries where even basics are absent. Townsend cites former minister of education for South Africa, Smangaliso Mkhathshwa: *'...many of our schools have no electricity, no water, no toilets, no libraries, no laboratories, no furniture, no classrooms, no teachers, no buildings, no windows, no pride and no dignity'* (Townsend, 2012 p376). It is difficult if not impossible to improve pedagogy and governance in a context with such enormous infrastructure challenges.

Data management.

Stringfield & Teddlie (2012) acknowledge the importance of evolving more efficient data storage systems and also greater transparency and higher quality data. Poor data management hinders progress in most low-income country contexts. Standards of data quality, integrity in data handling, data storage and retrieval are problematic even at governmental level. This compounds any other difficulties that arise with undertaking research in low-income countries such as Sierra Leone. Without basic data, evaluation of programmes is impossible as is the identification of where to focus resources or support. At every level the lack of data undermines further progress and development.

Leadership.

Townsend (2012, p 374) writes with confidence that, *'We have moved from a time where school leaders were identified by their seniority and were moved into leadership positions without any form of training, to a time where leadership training for head teachers and principals has become a new industry in education.'*

Of course, in his context, this is true. It is not however true in Sierra Leone or in many Sub-Saharan African and low-income countries, where even concepts of less hierarchal

leadership sit uncomfortably with many school leaders. Taking responsibility for all that happens in one's own school is a nearly unknown concept, due to lack of training, different cultural expectations and lack of motivation resulting from poor work conditions (Bisschoff & Rhodes, 2012; Nishimuko, 2007). Headteachers are largely selected for their seniority or, worse, their connections and have never had any training for their positions (MEST, 2013).

For discussion of school Improvement in the Sub-Saharan African context, Bisschoff & Rhodes (2012) provided a slightly modified list of factors to be considered.

- 1 *The physical environment of the school*
- 2 *The curriculum and its assessment*
- 3 *Teacher supply, training, professional development and support*
- 4 *School leadership*
- 5 *Links and partnerships with parents and the community*

The physical environment of the school.

There are insufficient classrooms, furniture and teaching and learning materials. Many schools do not provide a physically or emotionally safe environment either. 73 countries have not yet banned corporal punishment in schools (Global Initiative to End All Corporal Punishment of Children (GIEACPC), 2015). Nearly all of these countries are low-income countries and most Sub-Saharan African countries are among them. In addition, in many Sub-Saharan African countries a worrying component of the gender inequality is sexual abuse and violence in schools, perpetrated largely against girls (Bisschoff & Rhodes, 2012; Ombati & Ombati, 2012). That schools must be safe may seem obvious but cannot be assumed in all contexts.

The curriculum and its assessment.

Bisschoff & Rhodes (2012) find that in South Africa the curriculum and its assessment have been modernised somewhat but it is less clear elsewhere in Sub-Saharan Africa. When the West African Examination Council was established, for example, the 'adaptation' of education for Africa was feared as an attempt at 'dumbing down' education for Africans (Dillard, 2012). That fear goes deep and a strong resistance to change in the syllabi and exam structure continues. As the teaching and exam syllabi are the same, the assessment dictates learning priorities because what is not measured is not valued (Pritchett, 2013a). Where assessments focus on content, teaching does too.

Teacher supply, training, professional development and support.

Bold et al (2017) highlighted the difference between the requirements for school improvement versus the realities of teacher knowledge and competence. Teacher numbers are insufficient, and existing teachers lack the knowledge and skills to do the job. Many are neither trained or qualified (for example, in Sierra Leone 52% are qualified (MEST, 2013) and even those are trained inadequately, through programmes focusing on theory rather than practice and experience, and with no post-college support component (Bold et al., 2017; Akyeampong et al, 2011). Bold et al's study identified core problems including the tiny proportion of the curriculum that teachers sufficiently understand, the small percentage of the prescribed time they teach for and the low levels of pedagogical skill. The clarity of this tripartite problem indicates a clear direction for the focus of school and teacher improvement programming.

A recent report investigating behaviours and attitudes of 1,428 teachers from across Sierra Leone indicated that teachers, *'on average taught for 13 of the 25-30 prescribed school hours in a standard week, which amounts to approximately two and a half hours of teaching per day (or less than half of the standard school day). One in three teachers also reported significant disruptions to their instructional time in the past two weeks. The average disruption was as high as four days in the last two weeks.'* (Ministry of Education, 2017)

Basic teacher professionalism is so seriously undermined that without addressing teacher attendance and punctuality, impact from any other input or intervention is unlikely.

School leadership

Oduro et al (2007) noted that while school leaders ostensibly have greater autonomy as more decisions and funding are decentralised to individual schools, the leaders are still largely at the beck and call of the Ministry rather than treated as professional educators able to lead their colleagues in improving their service provision. Bisschoff & Rhodes (2012) found few leaders consciously taking responsibility for trying to improve their schools. These are mainstream concerns in higher income countries. In the developing world, the concerns are largely still absent. There is a dearth of research on effective support for leadership development and on gauging school leaders' understanding of both leadership and educational quality, and even less on how to improve leadership (Oduro et al., 2007).

Links and partnerships with parents and the community

While Pritchett, (2013b) clarifies that, for any rebirth of education, parents and local governance are key, most Sub-Saharan African schools struggle with this. Parents often feel disenfranchised by schools and although some governments attempt to involve them, attempts have not generally succeeded in overcoming the barriers (Bisschoff & Rhodes, 2012). This may be where strategies have been guided by well-meaning donor supported programmes lacking sufficient cultural contextual understanding. For example, in Sierra Leone: a school management committee (SMC) handbook detailing SMC roles, responsibilities, governance and composition, exists in a format inaccessible to the illiterate majority of rural community members. The Ministry of education no longer has a copy, few if any schools have it and even fewer have SMCs that could read or use it. Success is unlikely with this document as the key community engagement tool.

i. Relevance for teacher development and school improvement in Sierra Leone

Meaningful school improvement in Sierra Leone will address teacher-student contact time, teacher subject knowledge and teacher pedagogical knowledge. It must also tackle school leadership and governance with a holistic approach incorporating community and parental bodies. Outside of national programming, tackling curriculum and assessment is difficult. The focus must be on how one teaches more than what one teaches. The abolition of corporal and humiliating punishments and the establishment of safety as a norm are foundational to all other improvements.

j. Conclusion

A recurring theme in this chapter has been the importance of integrating the social and cognitive aims of education. There has been little progress in quantifying these social aims, as well as standardising meaningful measures that are respected by educators and policy makers. This has too often resulted in their neglect.

There has been greater progress in understanding school improvement and how schools can improve by engaging across whole districts and systems. However, this is not a universal achievement, and in Sierra Leone many schools remain unaware of the need, means or even a clear target for their own improvement. The literature indicates the need for research evaluating programmes to improve school leadership, to improve relationships between

schools and communities, to create physically and emotionally safe environments and very pragmatically, the handling of data.

Consistently too, the dictatorship of measures and indicators is noted: whatever can be measured and counted focuses policy and endeavours for change. This makes it ever more urgent that appropriate measures are found for both cognitive and non-cognitive aims of education.

The question emerges: Is it possible to improve schools through enhancing leadership and governance, building relationships within the school and between the school and the community, fostering socially safe environments and improving data management?

Chapter 3 - Literature Review (2)

School Improvement – Professional vs Business Capital Approaches & CPDL

a. Introduction

The previous chapter focused on the cognitive and social aims in education and the links to school effectiveness and school improvement literature. This chapter reviews school improvement literature with reference to its implications for the design of high-quality teacher Continuous Professional Development and Learning (CPDL).

In their book 'Professional Capital: Transforming Teaching in Every School' Hargreaves & Fullan (2012) establish a roadmap for education system renewal. Further discussion will show that this important work has insights extending beyond the original contexts they review. In the discussion chapters of this thesis, their conclusions will be discussed in detail in relation to the focus of the current study.

Using Hargreaves & Fullan's (2012) text as a framework, this chapter examines evidence from the literature about the most successful school improvement approaches. Drawing upon their terminology, this review discusses the development of professional capital, characterised as human plus social plus decisional capital. First, however, attention focuses on literature on alternative business capital driven models for school improvement. They argue that this business capital approach brings only short-term gains and does not serve the teaching profession or society.

b. Business capital driven approaches to school improvement

Hargreaves and Fullan (2012) argue that business capital models of school improvement focus on economic short-term savings that result in a shallow, low-skilled profession incapable of preparing the next generation for the challenges of tomorrow. As Luger, (2011) notes in his review of their book, their categorisation of all innovators as pursuing a business capital model is a generalisation lacking detailed evidence. The distinction between business and professional capital is nevertheless conceptually important.

Hargreaves and Fullan (2012) conclude that much education investment has business-driven motives, prioritising economic opportunities for the investor over a concern for improved standards of teaching and learning. The United States and the United Kingdom need to

refocus on revaluing the teaching profession, investing in it and supporting sustainable school improvement (Hargreaves and Fullan 2012).

Their aversion to business-driven models of education aligns with much of the opposition to the UK academy movement. There are now nearly 6,000 academies (Committee of Public Accounts, 2018). Some British newspapers allege that multi academy trust (MAT) acquisition of local authority schools is privatisation of education by stealth. The Guardian gives an example where a trust sacked school caterers and cleaners before contracting catering and cleaning services for an academy from a company owned by the venture capitalist that had established the MAT (Boffey & Mansell, 2016). The MAT aimed to acquire a string of approximately 200 schools. The authors argued that their motivation was lucrative business not improved school quality.

The House of Commons Committee of Public Accounts argue that MATs are not good value for money for the tax payer. The Committee asserted that the Department for Education is slow to respond to governance failures in many MATs (The Committee of Public Accounts, 2018). There may have been early gains in student performance in the initial wave of academies, most of which were previously under-achieving schools but, subsequently, far less improvement has been seen because the later schools were already performing at a much higher level (Machin & Veroit, 2010).

Academisation in the UK is viewed by these writers as being business-driven. Similar education reform attempts like the Swedish 'free-schools' programme and America's charter schools' are also characterised as driven by business motives not concern for school improvement (Kitchener, 2013). Bifulco & Ladd (2006) interrogated student outcome data for charter schools in North Carolina and Bohlmark & Lindahl, (2008) investigated data from 16 years' worth of students graduating from the free school system in Sweden. The research indicates that neither system has delivered on promises of improved student outcomes through increased choice and competition.

Criticism of business-driven models in education has been widespread. Espinosa, (2017) argued strongly against educational institutions in Colombia being turned into businesses, declaring that the language of business: indicators, supply and demand, standards and performance evaluation are indicative of a transformation of education into a business to such an extent that the social value of education is lost. Espinosa further cited Ospina, (2008) calling for the focus of education to be '*on coexistence and solidarity rather than*

*rivalry and competition*².' The dangers of the business-driven model are identified as the loss of focus on the broader social and non-cognitive aims of education, and the increase in segregation and inequality while at the same time providing no sustained benefit either to student performance or to the education system as a whole (Kitchener, 2013; Machin & Vernoit, 2010).

c. An Alternative Professional Capital approach.

Hargreaves & Fullan (2012) deduced a formula: “professional capital = human capital + social capital + decisional capital” which will be explored in the following section. Each component will be reviewed with regards its contribution to the aim of school improvement.

School improvement through improving human capital

Research internationally indicates that the greatest institutional determinant of pupil success is the quality of the teacher (Furlong, 2015; Hattie, 2003). As a result, the recruitment of teachers as well as the quality of ITE and indeed CPDL is also under scrutiny. Yet the implications of this evidence for policy and for the design of CPDL remain a matter for debate.

What is meant by human capital?

Odden & Kelly, (2008) describe human capital as talent but for Hargreaves & Fullan, (2012), human capital, in the education context, is the ability to teach. High levels of human capital are the result of investment in the individual teacher, their initial training and subsequent professional development, combined with challenging reflective practice.

In this section, the literature provides an overview of recruitment criteria and practices, initial teacher education and continuing professional development. While literature on teacher recruitment and ITE it is of general interest, this research will not review it in detail, as tackling, much less affecting practice in Sierra Leone is beyond the scope of this current project.

A. Hargreaves & Fullan, (2012) reflected on how the four top performing countries for education in the OECD, Finland, Singapore, South Korea and Canada recruit teachers from the top 30% of university graduates, whereas countries like the United States of America and the United Kingdom more typically recruit teachers from the bottom 25%.

² *El énfasis de la educación debería ser la convivencia y la solidaridad antes que la rivalidad y la competencia, decía William Ospina (2008)*

They highlighted that education attracts higher quality recruits in some countries than others and there is a great discrepancy between teachers' status and prestige. For example, teacher status is high in all four top-performing OECD countries for education (Hargreaves and Fullan 2012). Teaching is considered on an equal footing with medicine in Finland, and higher than law or business as attractive in a potential spouse (Hargreaves & Fullan 2012). Similarly, in Singapore, being a teacher was children's top career choice, before doctor or pilot (Lim, 2014). The Ministry of Education in Singapore can thus recruit teachers from the top one third of any graduating cohort (Lim, 2014). Finland too recruits teachers from the top 10% of university graduates (Sahlberg 2007; Hargreaves and Fullan 2012).

The "born teacher" is a myth. Research is clear that teacher training has a big impact on the quality of the human capital in schools. The first crucial stage of a teacher's professional journey, is their initial training, hence the importance of high quality ITE (Caena, 2014). Furlong, (2015) reported on options for ITE reform citing international evidence that to recruit the best teachers, one must design suitably attractive ITE courses, indicating that work conditions, profession status, and the quality of initial training stimulate appropriate recruitment. Courses need to respond to the changed nature of schooling in the 21st century. Difficulties sourcing high quality staff to design and run ITE is challenging due to competition between ITE and other tertiary courses in a market driven system.

A second opportunity for improving human capital is through Continuing Professional Development (CPDL). An examination of two research-based PD interventions for reading instruction found that CPDL programming has little or no impact on student outcomes (Garet et al., 2008), despite its being viewed as a key tool for school improvement if done well (Hill, 2007). Hill (2007) estimated that much of American CPDL provision failed to serve its purpose, unless it (i) lasted several days; (ii) focused on subject-matter-specific instruction; and (iii) was aligned with the instructional goals and curriculum materials in teachers' schools. Similar failure in the quality of CPDL provision is reported in the UK, one website reporting that only 1% of CPDL is effective (Revolution Education CPDL, 2018). In his inaugural lecture, Coe, (2013 p xiii) expressed '*that the right kinds of CPDL can produce big benefits for learners, and that most of the CPDL undertaken by teachers is not of this kind*'. He noted how poorly teachers take care of their own learning when, of all people, they are the experts at what good learning requires. He described CPDL that helps learners as (i) intense (between 15 and 50 contact hours at least), (ii) sustained over at least two

terms, (iii) focused on pedagogical content knowledge, (iv) active with opportunities to put theory into practice, (v) supportive with on-going feedback and guidance and (vi) focused on strategies that come from a robust evidence base (Coe, 2013 pxiv). The analysis from Hill (2007) and Coe (2013) indicate that much CPDL derives from good ideas rather than practical, evidence-based experience.

Piper (2019) presented at the Global Schools Forum 2019. He identified key findings from his research and practice that indicated that to be effective 'Teacher Professional Development' (TPD) needs to be (i) better planned, (ii) have a limited number of training days and a reduced content per training, (iii) provide opportunities for practice, (iv) incorporate coaching visits, (v) be aligned with the formal systems that teachers are already working with, (vi) to establish communities of practice and (vii) must focus on teacher change and the exact changes that are desired (Piper, 2019 slide 18). These findings emerge from work across Sub-Saharan Africa including Nigeria. They have relevance too for the Sierra Leonean context.

Theory and practice are aligning across both higher and lower income country contexts. Whatever the levels of teacher previous knowledge, the learning process requires a clear focus, opportunities to practice in context, follow up support and a community with which to share good practice and exchange ideas.

The latter was key for A. Hargreaves & Fullan, (2012) who found that for a genuine investment in human capital bringing sustained change in teacher knowledge that impacts student outcomes, CPDL must include follow up and feedback, and be 'fuelled' by good social capital.

School improvement through Improving social capital

This section reviews literature on the two main ways of improving social capital: relationships between teachers within an institution (intra-school collaboration) and relationships between teachers in different institutions and indeed between institutions (inter-school collaboration). Calling for change across the profession, Fullan and Hargreaves (2012) mean that a truly professionalised education system must include collaboration between professionals within and across schools.

Definitions of Social Capital

The term social capital is used in many different contexts so one precise meaning does not exist. Leana & Buren (2016) talk of organizational social capital where the benefit is both to the organisation and to its members.

Fullan and Hargreaves (2012) also refer to Leana's earlier work in public schools, examining the benefits of internal and external social capital in the education sector (C. R. Leana & Pil, 2006). For them, social capital is the result of good collaborative work amongst highly skilled professional teachers. Even weaker teachers who are well supported by their colleagues will improve and stronger teachers can strengthen each other and support weaker colleagues.

Hargreaves and Fullan (2012) cite Sanders (1998) saying *"the quality of the teacher is the single most important determinant in the learning of the student"*. They argue that this attitude has caused an over-emphasis on the individual teacher and undue focus on enhancing human capital and individual talent. Their call is to the whole teaching profession. They reason that an individual student's learning experience is the accumulation of many teachers' work. The focus must be on neither the good nor the bad teachers but on improving the whole school. To Hargreaves & Fullan, (2012) this means strongly emphasising social capital and collaborative professional relationships. They cite evidence in studies such as Leana's work in New York City, (C. R. Leana, 2011) in which students did as well with averagely performing individual teachers in schools with high social capital as they did in schools with high levels of human capital but lower levels of social capital. This is not to decry the value of good teacher training programmes but to clarify that alone they will be insufficient to guarantee good educational provision. Maybe more importantly, it indicates that strong CPDL will include the proactive encouragement of inter and intra-school collaboration. The system is strongest when teachers work collaboratively together, learning from each other and building on each other's experience and ideas. The risk is reduced of individual geniuses burning out from carrying too great a burden; children having a good experience of learning is not left to chance (Fullan and Hargreaves, 2012). TALIS too concludes that for professional development to be deemed high quality, it has to include 'groups of colleagues, collective learning activities or research with other teachers' (OECD, 2016).

Hargreaves and Fullan (2012) showed how relationships within schools are crucial and that teachers supported by a network of colleagues are more likely to last in the profession, stay committed and improve their own human capital. They wrote too about overall school improvement where the school leader focuses on supporting and facilitating development of social capital within the school as well as the human capital of individuals. They argued that best practice now also includes building collaborative relationships between schools and groups of schools. Professionalism and focus on improving services to the student could be achieved and an incitement to outperform each other could result from real professional exchange and networking. They also outlined potential pitfalls to be avoided, such as a spirit of competition driven by jealousy which can result in an unwillingness to help a struggling colleague. They argued that collaborative competition with both elements balanced is '*an unbeatable combination*' (Hargreaves & Fullan, 2012 p142).

This perspective is further upheld by reports from TALIS-participating countries, where teachers reporting more positive relationships with students and collaborative relationships with other teachers also report significantly higher levels of self-efficacy. In fact, in many countries the association with self-efficacy is stronger with teacher-teacher relations than with teacher-student relations (OECD 2014).

Singapore, one of the top four performing countries in the OECD, states as one of its three key values of teaching: '*Service to the profession and community focuses on teachers' commitment to growing beginning teachers within their profession through active collaborations and striving to become better practitioners in order to benefit the teaching fraternity as a whole*' (Lim, 2014 p3). This emphasises Singapore's perception that a good teacher must collaborate and work with others: failing to collaborate is a failure to fully participate in the profession. The inference is spelt out by Lim, (2014) as he emphasises that teachers are expected to contribute to the development of their junior colleagues and others through '*active collaborations*'. This also role models collaborative learning to students.

For true collaboration and professional sharing to be possible, trust is vital. Lencioni, (2002) , writes on the '[five] dysfunctions of a team' the first of which is the absence of trust. He argues that no team can achieve any of its goals until this is addressed. In the same light, Fullan and Hargreaves (2012) found that mandating participation in collaboration programmes is ineffective unless trust and respect between teachers already exists.

Models of Social Capital

This section explores what the literature suggests are the best models for increasing social capital. Doing so thus contributes to overall improved professional capital, which my research argues is key to school improvement. Both intra-school relationships and inter-school relationships will be examined.

Intra-school collaboration in practice

Hargreaves and Fullan (2012) appealed to the profession to reform itself and take advantage of disaffection within education and more broadly within society. They provided guidelines for three levels of education stakeholders: both national and international education authorities, school leaders and of course teachers. System-wide change is the goal not piecemeal improvement of a school or a teacher at a time. Their recipe was the combination of human, social and decisional change but they were not alone in their emphasis on the strong need for professional collaboration, professional relationships, the establishment of professional learning communities and networking. The Mourshed et al, (2010) report on school improvement across 20 school systems found that while systems moving from poor to fair levels of performance tended to rely more on centrally controlled guidance, systems moving from great to excellent would rely increasingly on peer collaboration for improvement. In order to achieve the most meaningful collaboration, peers need already to be operating at a reasonable level. This is a useful caution and particularly relevant when taking learning to low-capacity contexts.

In their meta-analysis, Higgins et al (2015) found strong evidence that effective CPDL always includes good opportunities for collaboration and peer support, although they recognised that there is no guaranteed method of ensuring that all collaboration brings real change to education practice or student performance. They also found that if collaboration was the only source of learning then improvements were minor. Other elements to the programme are required such as agreeing common aims and ways of achieving them, and the provision of expertise in addition to the work between peers. The studies they reviewed indicated the need to embed professional networking in any development and learning process. However, there is little in their review on inter-school partnerships.

Inter-school collaboration

Hargreaves and Fullan (2012) concluded that changing a few classrooms or even a few schools was insufficient as an aim. The whole system needed renewal. This provides one motivation to look beyond intra-school collaboration for school improvement. Just as Higgins (2015) concluded that no CPDL is complete without a significant collaborative component, increasingly whole school improvement research is finding that inter-school collaboration is an effective and necessary element for genuine and sustained change. These partnerships are not easy to establish but Atkinson et al (2007) found that time spent resolving issues in order to promote cooperation and understanding was time well spent. As their study focused on collaborations between schools in Northern Ireland, the point was equally well made that these partnerships helped schools live up to their potential for breaking down barriers and misunderstandings more broadly in the communities they served. When done well, collaboration enabled schools to demonstrate to their students some of the broader purposes of education to build stronger societies and communities, as argued for decades by many writers (Dewey, 1916; Edelsky, 1994). While some specific purposes of education are contestable and vary between cultures, they are intrinsically linked with building society, values and views of humanity (White, 1982).

Armstrong, (2015) and Atkinson., et al (2007) found that, while evidence on improved student performance was mixed, other benefits were more easily identified. These included reducing head-teacher burnout due to workload adjustments, reprioritisation and productive sharing of good practice and new strategies. Woods, Armstrong, Bragg, & Pearson, (2013) found that different types of education partnership brought improvements in organisational and financial efficiency.

Social capital in practice

Hargreaves and Fullan (2012) referenced the importance of collaboration and openness to learning with and from other institutions. They cited numerous examples and I will here highlight key ones, before looking beyond their work for further understanding of the field.

They outlined more and less helpful types of collaboration across schools. The Raising Achievement/Transforming Learning (RATL) project run by David Crossley between 2004 and 2008 with over 500 British schools (Crossley & Corbyn, 2010) saw significant gains in 95% of the participating schools. The programme included an invitation, but no

enforcement, to participate. The schools were networked together so that similar schools could collaborate and support each other. Mentors and coaches were made available but not assigned. Much of their success was ascribed to the *'lateral exchange of knowledge and experience between schools'* (Specialist Schools and Academies Trust, 2007). Autonomy within the framework of collaboration seems to have left participating schools and school leaders feeling respected, empowered and supported.

Further studies show that other UK collaboration attempts using alternative models did not achieve the same success. For instance, the second wave of academies have not had the same success as the RATL initiative because the original motivations for school improvement have been replaced by economic motives (Hargreaves & Fullan, 2012).

They do however identify two other interesting and successful Asian models of inter-school collaboration:

- Shanghai schools between 2006 and 2009 paired high performing with low performing schools and saw the city's performance soar, achieving at the top of the 15-year-old student outcome PISA tables by the end of that period.
- Singapore's 400+ schools are all grouped into clusters of 12 – 14 schools with a cluster manager who actively works to leverage each other's knowledge. They recognise that a few years previously their professional knowledge was insufficient to make this work (Hargreaves & Fullan, 2012). This concurs with the Mourshed et al., (2010) findings that more successful school systems can improve with collaboration but low-performing systems need to establish some basic norms to ensure that collaboration achieves its full potential.

Hargreaves and Fullan (2012) conclude that professional learning communities are essential, as is a collaborative aim for greater mutual inspiration, learning and improvement. They encouraged all schools and educators to aspire to greater collective responsibility which they characterised *'as consisting of the enlargement and deepening of identity beyond oneself'* (Hargreaves & Fullan, 2012 p142).

As Armstrong (2015) indicates, the nature of school collaborations is varied and the landscape is changing rapidly. In writing about types of school collaboration in the UK, Chapman & Muijs, (2013) identified 'federation' types as shown in adapted form in Table 3.1. With this categorisation they were able to show that, particularly where the purpose of the federation is indeed school improvement, improvement is very likely to take place. Where the purpose of the federation is different, this particular gain may still be achieved

but when improved teaching and learning are not the prime focus, they are less likely to be attained. Thus, simply being in a federation or partnership arrangement will not ensure that standards rise nor that school effectiveness improves. They conclude that if there is intent to improve weaker schools, then federating them with stronger schools is very likely to result in improved standards. Successful tactics include the transfer of behaviours believed to cause success and sharing staff to facilitate shared understanding between schools. Some also achieve economies of scale through sharing resources (Chapman & Muijs, 2013).

Table 3.1 – Federation Types adapted from Chapman & Muijs, (2013)

<i>(1) Cross-phase federations</i>	<i>Federations consisting of two or more schools of different phases, e.g., a primary and a secondary school;</i>
<i>(2) Performance federations</i>	<i>Federations consisting of two or more schools, some of which are low and others high performing. Usually two schools;</i>
<i>(3) Size federations</i>	<i>Federations consisting of two or more very small or small schools, or a small school and a medium-sized school;</i>
<i>(4) Mainstreaming federations</i>	<i>One or more special schools (schools for pupils with special needs) combine with one or more mainstream schools;</i>
<i>(5) Faith federations</i>	<i>Two or more schools of the same denomination combine. This type can overlap with one of the other four types, but in many cases does not;</i>
<i>(6) Academy federations</i>	<i>Two or more Academies run by the same sponsor form a federation. This type can also overlap with the others;</i>

C. R. Leana & Pil, (2006) noted that while a clear correlation between the amount of time that principals gave to inter-school relations and student outcomes was not evident, it was nevertheless important (C. R. Leana & Pil, 2006). Eschler, (2016) in his study of collaboration in Finnish schools, indicated that both formal (school required) and informal (voluntary) collaborations for sharing information, planning and problem solving are the norm.

However, his work largely reflects only on intra-school collaborations.

Schleicher (2006) concluded, in his analysis of Finnish success, that school networks that stimulate and spread innovations helps explain Finland's greatest success 'to make strong school performance a consistent and predictable outcome throughout the education system' (Schleicher, 2006). Sahlberg (2011) and Schleicher, (2006) noted the importance of the development of a culture of trust where professionals are given the necessary space and confidence to make decisions in the best interests of the profession and of their students. This issue of trust is key but challenging in itself. Whereas Finland ranks third on the corruption perception index of Transparency International, Sierra Leone ranks 123rd out of

176 (Transparency International, 2016). As Sahlberg, (2007) noted, the sort of trust required for the ideal levels of professional flexibility flourish where there is already significant trust in public institutions, a well-functioning democracy, trust-based public sector management and good functioning of the welfare state. According to Sahlberg, in Finland, these cooperative relationships emerged in part, due to the reluctance of central authorities to take difficult budget cut decisions but the result has been the significant decentralisation of the whole education system and a re-organisation and professionalisation of education. Sahlberg (2011) still argued that the systematic use of collaboration is an 'under-utilised resource' in Finland but that its use so far has contributed enormously to Finnish success.

Inter and intra-school collaboration are both important to school improvement but are not always easy. Armstrong (2015) lists a number of challenges:

- *threats to school autonomy (and perceived power imbalances), resource and workload, difficulties in establishing shared objectives and common goals, time and funding* (Armstrong, 2015 p28). Armstrong (2015) explores collaborations of different kinds, motivations, time periods and structure styles since 1999. The challenges all relate to practical issues, rather than a conclusion that collaboration itself is not valuable. He emphasises that it is worth investing time and energy to address and overcome these issues: the benefits outweigh the costs.

Equally, according to Hargreaves & Fullan, (2012) some collaborations are in danger of focusing on competition with alternative providers and thus being about self-protection rather than improvement, as seen with the UK academies.

What are the implications of social capital for CPDL design?

- High-quality CPDL in general, will include a strong element of collaboration within and between schools. The findings in the Mourshed et al. (2010) report indicate that in a low performing context such as in Sierra Leone, there will need to be a strong element of centralised guidance. Collaboration will support improvement but will be insufficient on its own.
- For collaboration to be meaningful and result in the stated aim of improving professional capital and thus school effectiveness, a strong foundation of trust and mutual respect must be achieved first. In Sierra Leone, time will be required to break

through mistrust of authorities and overcome the lack of motivation experienced by most teachers (Nishimuko, 2007).

- If collaboration is mandated there must be genuine engagement with the individuals as well to ensure genuine cooperation rather than simple physical attendance at meetings. Central control in a school system endeavouring to go from poor to fair (such as Sierra Leone's) will probably be necessary (Mourshed et al., 2010) but there is great need to get local buy-in for any programme to be effective so that each school leader and stakeholder is enthused by their ownership of the project (Bradach, 2003).

School improvement through improving decisional capital

The third component of professional capital, according to the Fullan and Hargreaves (2012) model is decisional capital. This section briefly reviews the literature on this issue.

Decisional capital is what results from many hours of reflective practice (Fullan and Hargreaves 2012). Gladwell, (2008) suggests 10,000 hours plus are needed to be a master. This is needed to gain experience in decision-making and reflecting back on decisions made. Contradictorily, 10,000 hours is sufficient time to become stale and jaded. Ensuring reflection and reflective practice require effort and commitment and need to intentionally become part of any school and any school system. 10,000 hours of reflective practice will almost certainly result in high levels of decisional capital and competence, but 10,000 hours of repeated actions will probably not.

High levels of decisional capital come from being trusted enough to make professional decisions and being experienced in making them (Hargreaves & Fullan 2012). This highly skilled, experienced reflective practice contrasts with the tick list approach emerging from an artificial application of lessons learned (Lemov, 2010). In a context where decisional capital is low, it may take interventions with greater central control before it is possible to foster the sort of behaviours characteristic of a high-performing context if the findings in the Mourshed et al., (2010) report are to be believed.

Improving decisional capital, can be achieved through reflective practice (Hargreaves and Fullan, 2012). Schön, (1983) is cited by them as identifying two forms of reflective practice: reflection in action and reflection on action:

- Reflection in action is the ability to think through a problem while in it and to reflect on the different opportunities while you are in the middle of an action or activity
- Reflection on action is the ability to reflect back on an action and consider the strengths and weakness of decisions taken during an action or activity. (Hargreaves & Fullan, 2012).

Schön (1983) characterised a professional as confident and committed, daring to ask challenging questions even if this creates the possibility of uncomfortable answers. Professionals will probe and push boundaries for deeper understanding of issues and better performance. Hargreaves and Fullan (2012) further claimed that collective reflection was one of the most powerful ways of building decisional capital because one can share ideas and learn from others in a safe, professional, trusting environment.

Decisional capital in practice in Sierra Leone.

2017 saw some significant money spent by the Department for International Development (DFID) in Sierra Leone on education. A key component of their intervention is the preparation of maths and English language lesson plans for primary and junior secondary teachers. This was understandable on the one hand because of the small proportion of teachers with the relevant training. On the other hand, this seems to undermine the potential for developing decisional capital. The lesson plan manuals were given mixed reviews. DFID's own evaluation found that 68% of teachers interviewed reported that they knew how to use the lesson plans (Ministry of Education, 2017). Another agency (National Youth Awareness Forum (NYAF), 2018) working in a remote part of the south reported that the two-day training was whittled down to a distribution meeting and that without NYAF support, no teacher would have known how to use the plans. They reported further that the lesson plans might help a reasonable teacher but were beyond the reach of weaker teachers.

One programme seeking to mitigate weak teaching by providing scripted lesson plans is Rising Academies (Rising Academies Network, 2018), also operating in Sierra Leone. The lesson plans provided by Rising Academies are accompanied by training and supervision. In addition, feedback is encouraged for the adaptation and improvement of the lessons. Rising Academies also provide coaches and acknowledge the difference between how a good and a bad teacher delivers the same plan. They want their teachers to improve through

coaching and reflective practice so despite the lesson plans, there is a consciousness of building reflectivity into their daily practice.

A further element of decisional capital emerges from strategic professional enquiry and research as in the Finnish ITE model and school federations in Ontario (Hargreaves & Fullan, 2012). This might generally be deemed beyond the reach of most Sierra Leonean teachers. As a first engagement, my experience leads me to doubt the wisdom of such a practice in such a low performing context. However, some EducAid teachers have recently undertaken small teacher-led (Randomised Control Trials) RCTs and found the experience motivating and enabling for their own practice (See Appendix 3).

What are the implications of this understanding of decisional capital for CPDL design?

- High-quality CPDL will include opportunities for reflective practice.
- High-quality CPDL will include opportunities for research and inquiry into how to improve practice.

In the Sierra Leonean context, these behaviours will take time to achieve but reflection on causes of improvement can start immediately when improvement starts. More complex self and group interrogation can be included in subsequent phases of CPDL. This chapter has reviewed literature that discusses the three elements of professional capital as identified by Hargreaves and Fullan. It will now finally, briefly review the role of the school leadership in building professional capital.

d. Role of leadership in achieving school effectiveness and improvement / building professional capital

While the focus for most of this chapter has been the teacher, training of teachers and how to encourage appropriate inter-teacher behaviour, this section reviews the importance of leadership within schools and explores the relationship between the principal and building professional capital and ensuring school effectiveness and improvement.

Fullan and Hargreaves (2012) provided guidelines for district and school leaders and cite many examples of district and school leaders and the positive relationships they develop for driving up standards. Their professional capital model included a six-point set of guidelines:

- 1 *Promote professional capital vigorously and courageously.*
- 2 *Know your people: understand their culture.*
- 3 *Secure leadership stability and sustainability.*

- 4 *Beware of contrived collegiality (and other irritating associates).*
- 5 *Reach out beyond your borders.*
- 6 *Be evidence-informed, not data-driven.* (Fullan and Hargreaves 2012 p163)

This highlights the importance of improvement being driven by the leadership. It is the school's leadership that will establish a whole school culture of self and team improvement. In an appropriate environment any individual teacher can strive to improve themselves and be open with their colleagues and collaborate with and learn from other professionals. For a whole school maximised learning experience, the school leadership and the district or local authorities must also require this for all teachers and work collaboratively themselves.

Hargreaves and Fullan (2012) cite a useful example in a poorer borough in East London which went from 149th in the country in 1996 to well above the national average ten years later. This improvement was attributed in part to trust-based relationships between district leaders and schools. The district leaders visited the schools regularly and knew their cultures, staff, histories, contexts and engaged with realities not just statistical data (Hargreaves & Fullan, 2012 p164). Another collaboration example is in the Branch et al (2013) 'value added' study which found considerable impact of school leadership on school performance and concluded that the principal was a key component in whether a school is successful or not. Effective principals, they found, engaged actively with the quality of teaching and learning in their schools. More specifically, in their study reviewing 134 other studies, Robinson et al., (2009a) identified a number of areas in which heads of schools can have a meaningful impact on school effectiveness. They find that the highest effect size of 0.84³ is ascribed to promoting and participating in teacher learning and development. Their research identified two reasons for this: heads who engaged in teacher CPDL were engaged with the realities of teaching and learning and they were also more aware of the concerns of teachers, so they were able to give them more support when necessary. This has implications for this thesis.

What are the implications of this understanding of the role of leadership in school improvement for CPDL design particularly in Sierra Leone?

- High-quality CPDL requires the active engagement of the head.

³ They note that an effect size between 0.6 and 1 indicates a very significant impact but do not indicate what kind of effect size they refer to.

- Schools where the head is not engaged in supporting improved professional capital will waste any CPDL investment.

In Sierra Leone, schools tend to be run by heads in position due to their longevity in the school or to their connections. They have rarely if ever received leadership training. They are often disempowered by those supervising them and reassert their dignity and authority by domineering rather than supportive behaviour. This often means that nothing happens in the school without their approval and they resist attempts to change the status quo. The decision by the head to actively participate in any school improvement or whole school CPDL programming is a prerequisite to any successful implementation.

e. What questions emerge from the literature reviewed?

In this chapter, the literature reviewed has shown the importance of building human, social and decisional capital as well as the engagement of the school leadership in order to achieve effective school improvement. The next chapter reviews what the literature suggests are the main approaches and trends in thinking about school effectiveness and school improvement in low income countries. It further considers if the evidence suggests that lessons learned in medium and high-income contexts can be applied in lower income countries and, in particular, to Sierra Leone.

Is it possible to provide CPDL interventions that build human, social and decisional capital as well as improving the school leadership in order to achieve effective school improvement?

Chapter 4 – Literature Review (3)

Education in Sub-Saharan Africa with particular reference to Sierra Leone

a. Introduction

This chapter reviews the economic and political background in Sub-Saharan Africa and then explores education within this context. Against this background it then analyses the specific context of Sierra Leone. The analysis focuses on both academic research and the work of global development, education and gender equality institutions.

b. Sub-Saharan Africa: Economics, politics and society.

The ‘third world’ can be said to have reduced in size in recent times. In 1990, 35% of the world’s population lived below the poverty line (World Bank, 2017) whereas by 2015, approximately 10% were living in extreme poverty (World Bank, 2018a). This is a noteworthy achievement but the region that has least benefitted from these improvements is Sub-Saharan Africa. In 2015 of the 735.9 million people living on below \$1.90 per day, 413.3 million of them were in Sub-Saharan Africa. In comparison to a world figure of 10%, 41.1% in Sub-Saharan Africa still live on under \$1.90 a day (World Bank, 2018a). Of the bottom 20 countries on the UNDP’s Human Development Index in 2018, only the Yemen, which has been at war since 2015 and is experiencing extreme famine, is not in Sub-Saharan Africa. Collier (2007) identifies four key traps that keep low-income countries from developing and participating in global growth. They are conflict, resources and ‘Dutch disease’⁴, being land-locked with bad neighbours, and bad governance in a small country. Of the 58 countries he identifies as having the ‘Bottom Billion’⁵, of the world’s population in terms of income, 37 are Sub-Saharan African countries and nearly all can be said to be affected by one or more of the ‘traps’ that he outlines. Instability, corruption, poor governance, low-levels of investment and economic growth are the norm across much of the region (Smutka & Tomšík, 2014).

⁴ Dutch disease is the negative impact on an economy of anything that gives rise to a sharp inflow of foreign currency, such as the discovery of large oil reserves. The currency inflows lead to currency appreciation, making the country’s other products less price competitive on the export market. It also leads to higher levels of cheap imports and can lead to deindustrialisation as industries, apart from those involved in resource exploitation, are moved to cheaper locations. (Financial Times, 2017)

⁵ The Bottom Billion refers to the poorest billion people in the world (Collier, 2007).

Gender Inequality.

In line with global norms, gender inequality across the region is contributing to the lack of development. Mikkola and Miles (2007) argued that most developing countries are in the position that higher income countries were in one hundred years or more ago. They concluded:

‘Overall the literature hints as to the aspects of gender inequality that seem to be associated with the overall level of economic development: values and religion, cultural restrictions, legal and inheritance laws and practices, the marital pattern of resource allocation, monogamy vs. polygyny, labour market access, education, fertility, gender specific market failures in finance, and power in political decision making’ (Mikkola & Miles, 2007 p49).

The list is daunting and illustrates ideologies that form society in much of Sub-Saharan Africa. As one report said, laws may be in place but the *‘concept of equality has not taken root, even in the hearts and minds of the young people interviewed. It is quite clear from all the research that girls are still valued less than boys and for the most part see themselves as worth less (Albrechtsen et al., 2017 p33)’*. Because equality is not fully understood, bias still exists within many who believe themselves to be pro-equality. This creates a significant challenge that not only requires a change in legal framework, but also constitutes a profound and persistent challenge at every level of society. A key concern with this sort of bias is that too often girls and women either do not perceive the inequality or disbelieve it, undermining their own equality. In other words, *‘The enemy of feminism is not men. Women can support patriarchy, + men can be feminists (or friends of feminists)’* (justinemusk, 2017). The campaign for greater equality is not women opposed to men but a re-balancing of a previously imbalanced situation that affects everyone.

The impact of gender inequality is felt by men and women alike and the benefits of increasing equality are likewise universal. The EU concludes *that ‘by 2050, improving gender equality would lead to an increase in EU (GDP) per capita by 6.1 to 9.6%, which amounts to €1.95 to €3.15 trillion’* (European Institute for Gender Equality, 2017). A report from the Office of the Special Adviser on Gender Issues and the Advancement of Women (2001) found, using data from studies in 46 developing countries, that a 1% rise in women’s literacy had a positive effect that was three times larger than that of a 1% rise in the number of doctors available.

Manifestations of gender inequality in Sub-Saharan Africa include widespread promotion of forced and early marriage, preference for sons over daughters, low levels of self-expectation and self-esteem, unequal property and ownership rights as well as many forms of violence including Female Genital Mutilation (FGM) and sexual abuse (UNESCO, 2017).

One billion of the world's population continue to live in extreme poverty and a majority of these live in countries in this region despite improvements in the rest of the world (Collier, 2007). The reasons for economic stagnation are deeply embedded in history, culture, and governance. The research in this thesis is grounded in a belief that education is integral to finding solutions.

c. Education in Sub-Saharan Africa

The first part of this chapter describes the context in which the education systems of countries in Sub-Saharan Africa must operate, and to which they have partially contributed. UNESCO (2014) assess the Sub-Saharan African education situation saying *'Children's educational opportunities should never be determined by where they grow up, their parents' income, their ethnicity, their gender or whether they have a disability. Yet, in a quarter of the world's countries, less than half of children are learning basic literacy and numeracy skills, and about 80% of those not learning these basic skills live in Sub-Saharan Africa. In total, 250 million children are not learning the basics. Urgent action is needed to ensure that these children do not become a lost generation'* (UNESCO, 2014 p315) .

In light of the strong link between education and development, and because education is a social justice issue and a human right that gives access to many other rights (UNESCO, 2016; UNESCO Institute for Statistics, 2018), it is worrying to see how poor almost every aspect of Sub-Saharan African educational provision is. While the problem goes beyond Sub-Saharan Africa, it is particularly acute in nearly all Sub-Saharan African countries. Table 4.1 below shows consistently that Sub-Saharan Africa has higher rates for children out of school than the average for the rest of the world and for Southern Asia, another low-income region. In spite of being a low-income region Southern Asia has a lower rate of children out of school than the world's overall average. Economic growth in this region may reflect the commitment to education in all levels of government and society. If so, it is a commitment that contrasts starkly with many countries in Sub-Saharan Africa (UNESCO Institute for Statistics, 2018).

Table 4.1: % of out of school children and adolescents in Sub-Saharan Africa and the World(UNESCO Institute for Statistics, 2018)

Region	Out of school rate (boys) %	Out of school rate (girls) %	Out of school rate (boys & girls) %
Sub-Saharan Africa primary ¹ age	18.1	23.5	20.8
Southern Asia primary age	4.9	6.4	5.6
World primary age	7.9	10.0	8.9
Sub-Saharan Africa lower secondary age	34.5	38.8	36.6
Southern Asia lower secondary age	18.3	15.9	17.2
World lower secondary age	15.7	16.2	15.9
Sub-Saharan Africa upper secondary age	54.3	61.3	57.8
Southern Asia upper secondary age	47.2	49.7	48.4
World upper secondary age	36.0	36.5	36.3
Sub-Saharan Africa primary, lower and upper secondary age	35.1	29.6	32.3
Southern Asia, primary, lower and upper secondary age	21.9	22.8	22.4
World, primary, lower and upper secondary age	17.2	18.5	17.8

d. Improving access – Education For All (EFA)

The Education For All (EFA) drive is a global UNESCO led movement. Starting at an EFA conference in Dakar in 1990, it aimed to meet the learning needs of all children, youth and adults by 2015. Globally, the drive towards ‘Education For All’ (UNESCO, 1990) has managed to improve access but has not addressed poor educational standards in low-income countries. Bold et al (2017) argued that for more than ten years, it had been recognised that increasing the amount of schooling had not had the expected impact on educational standards (Bold et al., 2017). They are not alone in concluding that quantity -access and length of schooling - has increased but that quality has changed little and is therefore the new preoccupation globally (A. Barrett et al., 2015; Filmer et al., 2006; Lupele & Lotz-Sisitka, 2014; UNESCO, 2013a).

e. Unintended Consequences – EFA’s failure to raise standards

The EFA movement claimed to focus on quality as well as quantity but according to later analyses (Filmer et al., 2006) the definitions of quality were too nebulous. Even the next wave of thinking only extended the concern for quality to mean learning outcomes which

the authors still deemed insufficient to ensure substantial change and unlikely to have a real impact on educational standards (Pritchett, 2013b).

As a first step, the progress in enrolment is noteworthy. Yet simultaneously, Filmer et al., (2006) also observed that most young people were not gaining even the basic skills before leaving primary school, and therefore enrolment was of limited value (Filmer et al., 2006). They cited Brazil and Mexico where, despite significant increase in the proportion of children completing six years of primary education, most children left without achieving satisfactory standards in mathematics: 96% of Brazilian and 91% of Mexican youth failed to achieve global standards⁶. They concluded that *'[while] nearly all countries' education systems are expanding quantitatively nearly all are failing in their fundamental purpose.'* (Filmer et al., 2006 p1).

Bold et al (2017) cited other examples of higher enrolment but desperately low standards of achievement:

- 80% of students in Mozambique and Nigeria cannot read simple words in Portuguese or English respectively after 3 years of compulsory literacy education.
- 25% of Indian children in grade four cannot manage basic maths tasks such as subtraction.
- 50% of Ugandan children after three years of maths education cannot order numbers from 1 – 100. (Bold et al., 2017)

These statistics make unhappy reading and constitute what UNESCO characterised as *'the global learning crisis'*, pointing out that *'across the world, 200 million young people leave school without the skills they need to thrive plus an estimated 775 million adults – 64 percent of whom are women – still lack the most basic reading and writing skills'* (UNESCO, 2013 p4).

As a result, Filmer et al (2006) concluded that there was a need to devise a completely new goal.

⁶ Filmer et al used the term 'global standards' but did not explain who defines them or what exactly they are. It is possible that they are extrapolating from Programme for International Student Assessment (PISA) (OECD - Organisation for Economic Co-operation and Development, 2011)

f. Millennium Learning Goals

As I argued in my submission to the Overseas Development Institute background paper on post-primary education in Sierra Leone (Mason, 2019), Filmer et al. (2006) called for a Millennium Learning Goal to replace the original 2nd Millennium Development Goal (United Nations, 2013) to achieve universal primary education (UPE). This illustrated the assumption that attending school was equal to achieving education and would inevitably result in meaningful learning. Pritchett (2013) proposed an education goal comprising a range of learning goals. These goals can galvanise action and focus attention and resources. Recognising that what is not measured does not receive attention (Zhao, 2016), these economists sought a refocus on education quality and goals defined in measurable terms.

Due to acknowledged data constraints, in many countries the Education For All Development Index (EDI) focuses on only four of the six EFA goals: Universal primary education, Adult Literacy, Quality education and Gender (UNESCO, 2007). EDI proxy measures for quality only relate to student outcomes in literacy, numeracy and science. They capture no concerns for values or other transferable skills (UNESCO, 2007). As such, they go a step beyond simple enrolment but do not provide full encouragement for governments to focus their attention on a high-quality holistic education.

Pritchett (2013b) argued that, in consequence of these priorities, there was no data on, for example, how many 15 year olds were ready for their future; getting them ready for that future was not top of anyone's list of specific priorities and therefore received little or no attention (Pritchett, 2013b). Pritchett's point is surely that, as tests and exams are prioritised, there is no preparation for life outside the classroom or the exam hall. This belies the purposes of education outlined in Chapter 2. Schools need to prepare one for life-long learning and growth (Barrett, 1932; Stringfield & Teddlie, 2012).

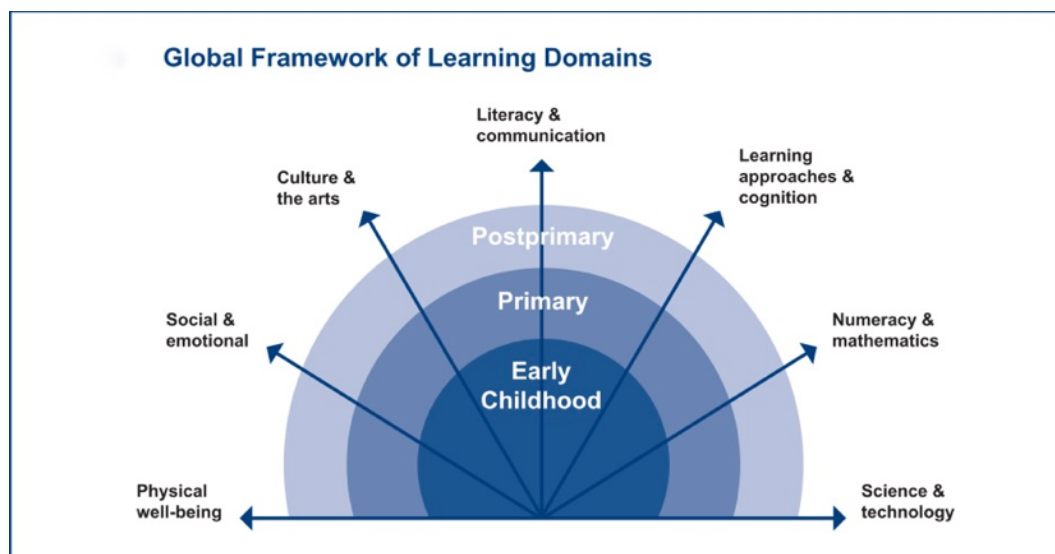
g. Critiques of Millennium Learning Goals – Over-ambition and the focus on measurement

The EFA 2015 report claimed that while the EFA movement kept education high on the development agenda, the efforts to advance education became '*synonymous with ensuring that every child is in school*' (UNESCO, 2015 p18). This EFA focus led governments to overlook other concerns, such as quality. This is largely attributed to measures that still focus on universal access, despite the rhetoric. In 2000, there was a restatement of concern for quality but the problem persists and the emphasis remains on quantity and access. This

is a notable criticism in the report on achievements and challenges from 2000-2015 which clarified that improving quantity and quality could happen together (UNESCO, 2015).

The Learning Metrics Taskforce report included recommendations to ensure a shift in focus *'from access to access plus learning'* (UNESCO, 2013a p1, 12). The challenges appear enormous, but the call is for a paradigm shift. Within this there is a new definition of quality that includes a focus on seven 'learning domains' (UNESCO, 2013a p13) to be found in Figure 4.2 below:

Figure 4.2: Learning Domains as defined by the Learning Metrics Task Force (UNESCO, 2013a)



These learning domains are ambitious and while understandable, they seem likely to create unrealistic challenges for low-income countries. If success had previously been unachievable in the limited range of numeracy and literacy, it is hard to see how adding five more domains will improve things. The argument must be that if progress in these areas starts to be measured then resources may be allocated to addressing them. In the context of low-income countries, this mostly concerns focusing donor resources as explained by Adams & Judd, (2018) in their paper on donor priorities.

It is UNESCO's own 2017/18 report however that pointed out the semi-mockery of the global education goals for most low-

Figure 4.3- Cartoon illustrating the impossibility of the Global Education Goals - (UNESCO, 2017b p96)



income country governments. They inserted a cartoon on page 96 of the international organisations' representative handing a short ladder to an indigent looking man who is gazing helplessly at the Global Education Goals at the top of a wall the ladder will not begin to reach (UNESCO, 2017b).

Sustainable Development Goals (United Nations, 2016) were introduced in 2016, replacing and building on the Millennium Development Goals (UN Department of Public Information, 2000). The Fourth Sustainable Development Goal is 'Quality Education' and is expressed as to '*Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*' (UNDP, 2017). This aligns more closely with the suggestions for a millennium learning goal than the previous MDG2 which simply targeted the achievement of UPE: '*that all boys and girls complete a full course of primary schooling*' (UN Department of Public Information, 2000 p1). The UNDP's own documents explain that the new 'Quality Education' goal builds on the MDG2 and the EFA movement and moves forwards to encompass concerns for equitable access to post basic education. It also recognises the need to prepare young people for the world of work and for a globally interconnected world (UNDP, 2017 p6)⁷.

Of the implementation targets, none has a focus on quality of learning *per se*. Rather, they focus on quality of learning environment. Overall, the new targets and indicators may support a focus on a higher quality of education with regards to improved learning environments and some literacy and numeracy acquisition, but not much more. The targets mention quality more often but the measures and indicators still largely fail to address broader concerns for the social aims of education. It is easier to acknowledge that quality is the problem than it is to find clear ways of improving quality.

There is a shortage of independent research on the impact of education reform interventions in developing country contexts, but the work of Bold et al (2017) draws on data collected in seven Sub-Saharan countries between 2010 and 2013. They found that in these seven countries: (i), teachers on average only teach 50% of the time they should be in class; (ii) only 7% of grade 4 English Language teachers achieve 80% accuracy when

⁷ Sections of this chapter also reflect content in a report I wrote that is awaiting publication on post-primary schooling in Sierra Leone, for the Overseas Development Institute (ODI). This is a background paper for the Secondary Education in Africa Report, Mastercard Foundation, Toronto, 2019.

marking⁸ a pupils' English test which would categorise them as 'having minimum subject knowledge' (p9); (iii) fewer than 70% of grade 4 maths teachers achieve the standard of 'having minimum subject knowledge' in maths by 80% or more accuracy in marking a grade 4 standard maths test; (iv) only 10% meet the standard for 'minimum general pedagogy knowledge' (Bold et al., 2017 pp 9, 14).

The analysis in the Bold et al. (2017) paper looks too at the causes of the poor performance of teachers and finds that low academic standards of those recruited into teaching as well as poor quality initial teacher education programmes account for much, if not all, of this. The most likely students to apply for teacher training are those who do not have the qualifications to get into a degree course as entry requirements are low. In stark contrast to the recruiting of teachers in, for example, Finland where teachers are recruited from the top 10% of graduates (Sahlberg, 2011), Sub-Saharan African countries recruit from those without the requirements to join a bachelor's degree course (Bold et al., 2017). In addition, they find that the focus of those courses does not provide appropriate preparation for the task the teachers will be doing. This is reinforced by Akyeampong, Lussier, Pryor, & Westbrook, (2013) who found that not only did colleges focus on content over pedagogy in their training but also they gave teachers unjustified confidence in their own teaching competence.

h. Education Quality

Education for democracy

A focus on enrolment can actively reinforce injustices if pedagogical issues are ignored. In the Sierra Leonean context where 'brutal' practices in education were identified by the TRC as a contributing factor to the war, this is important (TRC, 2004b). For Coleman, (1965) education had to facilitate the acquisition of literacy levels sufficient for citizens to understand what any given government required of them. Understanding of education for democracy has evolved over the last few decades. This evolution means that international development now includes political development and democracy is the goal of that political development. Harber & Mncube, (2012) in their exploration of the relationship between education and democracy in developing countries found that, on balance, increased

⁸ The study used an innovative means of assessing teacher competence, requiring them to undertake a teacher task rather than a student task – their test involved them marking student work accurately as a demonstration of their own subject knowledge (Bold et al., 2017)

education correlated with increased likelihood of a sustained system of democratic government. While they did not clarify how the relationship worked, maybe something can be learned from Harber's (2016) analysis of the terms political indoctrination, political socialisation and education for democracy. He determined that political indoctrination is a blatant endeavour to ensure all citizens, including school children, believe a particular political ideology; political socialisation may or may not explicitly call for one set of ideologies but teaching styles ensure that children learn not to question. In contrast, he defined education for democracy as enabling a critical thinking, evaluative approach in which different views can be considered and values such as tolerance, reason, diversity and mutual respect are upheld. This is where the agenda and the hidden agenda are exposed and seen to either support or undermine democracy or conversely the status quo, as in the thinking of Freire, (1970).

An authoritarian education system is seen, no matter the content, to undermine education's potential to support democracy. Many low-income country education systems were built on colonial era attitudes, where education ensured that learners knew their role and place in society, accepted the superiority of the colonial power and culture and consented to a menial, servile role within society. London, (2002) found this exemplified by Trinidad and Tobago. The Sierra Leonean education system was judged as not just authoritarian but actively brutal (TRC, 2004b) with results in line with the Harber and Mncube (2012) analysis as well as the report on education and armed conflict (UNESCO, 2011). Education can support democracy and peace but is too often used as a tool for reinforcing divisions and intolerance.

This section has reviewed the potential for education to contribute to societal change with regards to political and democratic engagement. The next section examines gender inequality and education in the sub-region.

Gender inequality and education in Sub-Saharan Africa

Having commented earlier on gender inequalities in Sub-Saharan African society generally, this section reviews evidence on gender equality with respect to education in Sub-Saharan Africa.

In Europe, Mikkola and Miles (2007) find that, although other aspects of Europe's largely Christian history show Christianity having been detrimental to women's empowerment, the protestant requirement that both men and women read the Bible actually advanced

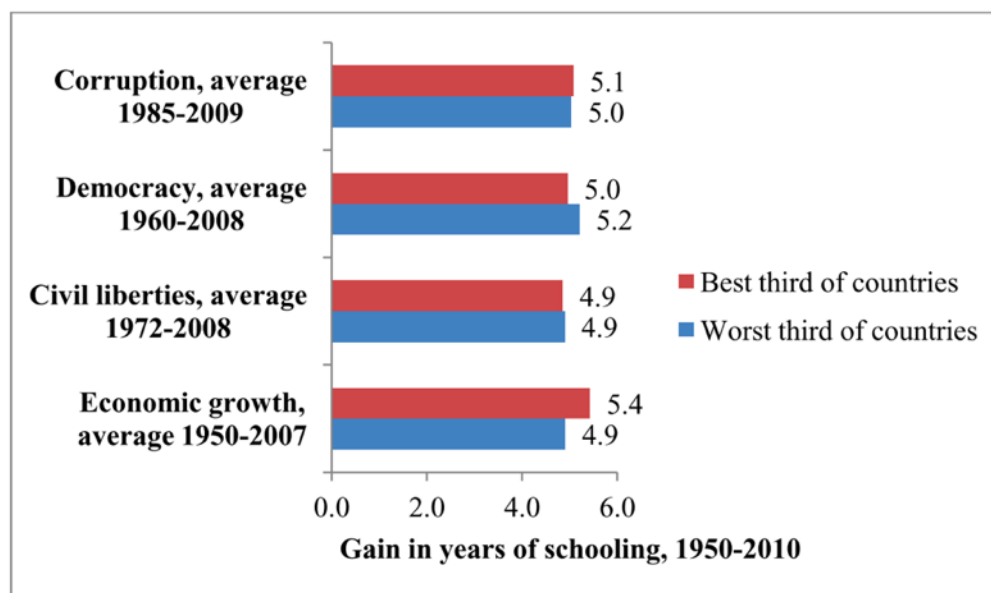
women's education. In many low-income countries, in families where insufficient funding means choices must be made, frequently girls fail to attend school. Religion and cultural ideologies often influence the reasoning for this (Mikkola & Miles, 2007). Gender parity for primary enrolment was a 2005 Millennium Development Goal but had been achieved by only 63% of countries worldwide by 2011. The 2014 'Education For All' report projected that 7% of countries would still fail to achieve this goal by 2015 and of these, three-quarters would be in Sub-Saharan Africa (UNESCO, 2014). By 2018 though only 66% of countries worldwide had achieved gender parity in primary school enrolment, and the 2017/18 EFA report shows 49% of countries in Sub-Saharan Africa had attained this target (UNESCO, 2017b). At secondary and tertiary levels, the gap was even wider with 26% of Sub-Saharan African countries having gender parity in lower-secondary school enrolment, 9% at upper-secondary school and 0% at tertiary level. In line with discussions about access and access plus learning, note also that enrolment of equal numbers of girls and equal participation and achievement are not the same thing.

As in other aspects of life and society, early and forced-marriage, early pregnancy, violence and sexual abuse play a significant part in the unequal participation and achievement of girls in primary and secondary schools in Sub-Saharan Africa (Sutherland-Addy, 2008). While the overall achievements of girls in schools is lower than boys, it is further exaggerated when examining data for science, technology, engineering and maths (collectively known as STEM subjects) often perceived by teachers and students as boys' subjects (UNESCO, 2017a).

i. Education reform & School Improvement in Sub-Saharan Africa

Global consciousness of the poor state of much education, has resulted in attempts at improvement over the last decades. As Pritchett points out: *'good governments do schooling, but nearly all bad governments do too'* (Pritchett., 2013a p4). He illustrates this with a useful diagram (Figure 4.1) showing the almost negligible differences in gains in years of schooling to be found between the third of countries who best controlled corruption and the third who least controlled corruption.

Figure 4.1 - Schooling increased massively in nearly all countries --including corrupt, non-democratic, repressive, and slowly-growing countries - (Pritchett, 2013a p5)



Source: Author's calculations with Barro-Lee and World Bank data.

Along with all other regions, Sub-Saharan Africa has improved its school enrolment, but the effectiveness of this schooling is still challenging.

Is school effectiveness the same in all contexts? Are there contexts, such as low-income countries, in which effective schools do not or should not be expected to comply with the standards outlined for other parts of the world?

These questions and the desire for comparable ground, lead to increased emphasis on cognitive aspects of schooling which are universal. The Programme for International Student Assessment (PISA) more recently included indicators such as expenditure on education, exam pressure, anxiety measures and collaborative problem solving, but the main focus internationally is on science, maths and literacy scores (OECD - Organisation for Economic Co-operation and Development, 2015).

There is little literature on global standards outside of PISA and even less on global standards across all countries including low-income countries. The limited available literature explores largely western and high performing countries or discussions of the maintenance of at least minimum standards at times of crisis. The INEE handbook (2010) provides minimum standards and priorities for education systems worldwide during emergencies. Interestingly, their focus places far greater emphasis on the learning environment and ethos to be created, the opportunities to participate in decision-making and in feeling safe than on lesson content or student exam outcomes (International Network

for Education in Emergencies, 2010). This aligns with Hopkins' (1990) report which indicated that studies on effective schools in the UK found consistently that differences in *'outcome are systematically related to variations in the schools' climate, culture or ethos and their 'quality' as social systems'* (Hopkins, 1990 p185). How the management relate to staff, how staff relate to each other and how staff relate to students are important determinants of whether a school succeeds or not.

The INEE guidelines provide a pathway for organisations and governments to learn from best practice in establishing positive learning environments and putting appropriate systems in place. However, outside of crises when provision is often driven by international donors, in the presence of day to day poverty for families and in educational provision, these guidelines tend to be ignored.

Learning from their tripartite findings about teacher time, knowledge and skill, Bold et al (2017) concluded that school improvement would only take place if the interventions addressed the issues of how much time teachers are actually in class as well as teacher knowledge and skills.

However, this analysis and much research ignores the need to marry good social provision with good academic provision. Freire (1970) argued that, particularly in contexts of inequality and oppression, it was vital to avoid educating simply to uphold the status quo and maintaining the dehumanised positions of both the oppressed and the oppressor (Freire, 1970). Freire characterised rote learning as a 'banking' style of education that took no account of the learner's contribution and aimed simply to fill empty receptacles with unquestioned content. He argued that this maintains power imbalances and fails to achieve the real purposes of education. His approach spoke to a need for a values-led education with a strong concern for the socialising component. This required respectful methodologies to be at the heart of the whole education system. Combining learning from Bold et al (2017) and from Freire (1970) leads to an important conclusion. Bold provides a recipe that can be used to address important issues. Freire contributes a further ingredient that is vital but makes the entire endeavour far more challenging because his call for a humanising education does not allow for the preservation of dominant groups. Dominant groups defend their own interests. For education to 'humanise' an unjust society requires real education for democracy which actively promotes critical thinking, integrity and

compassion. Effective interventions need to take account of thinking from Bold et al (2017) and Freire (1970).

j. Sierra Leonean economic, political and societal situation

Sierra Leone is a sad example and an extreme case of the pattern across Sub-Saharan Africa. Sierra Leone has hovered between the last place on the HDI in 2000, a brief moment at 11th poorest in 2007 and at the time of writing is ranked as 5th poorest country in the world (UNDP, 2018). Sierra Leone is estimated to have 74.8% of its population living in poverty and 55.3% youth unemployment (UNDP, 2018). It is identified as one of Collier's (2007) bottom billion countries. Indeed, one can see it as having been clearly affected by three of his four 'traps': conflict, resources, and bad governance in a small country (Collier, 2007). They are intertwined and clearly present.

Conflict: From 1991 to 2002, Sierra Leone experienced a brutal war in which its politicians, neighbours and a number of cynical foreign parties fought for resources and kept the rest of the nation in fear and economic and societal paralysis. The period leading up to the war was characterised by poor governance, coups and then the declaration of a one-party state. The levels of dissatisfaction with the country's political elite were high and it was not difficult for all of the fighting factions to mobilise marginalised youth to join them as combatants (Harris, 2014).

Resources: Sierra Leone has deposits of 17 different minerals including diamonds, bauxite, rutile, iron ore, and gold. Since their industrialisation, thanks to conditions attached to IMF and World Bank loans, in the 1990s the economy focused on mining at the expense of agricultural activities. This resulted in significant damage to the rural economy (Sesay, 1995). The mismanagement of mineral resources and corruption around the mining industries has been found to be a considerable obstacle to economic growth (Chêne, 2010).

Bad governance in a small country: After the war, recommendations from the Truth and Reconciliation Commission were largely ignored even though they identified key causes of the war such as nepotism and corruption and it was stated explicitly that they remained risks for further disunity and conflict unless addressed robustly (Katta, 2016; TRC, 2004a). Correlating with low levels of development and high levels of poverty are the high levels of

corruption. Sierra Leone ranks 130th out of 175 on the Corruption Perceptions Index⁹ as shown in Table 4.2 below. Corruption is found to be rife in all aspects of day to day life (Chêne, 2010).

Table 4:2 The Relationship between Human Development Index Ranking with Corruption Indicators (Trading Economics, 2017; UNDP, 2018)

	Human Development Index Rank of 186	Corruption Index Rank out of 175	Corruption Perceptions Index Value
Sierra Leone	179	130	30
Ghana	139	81	40
United Kingdom	16	8	82

These factors have created a society that stumbles from one crisis to another, constantly vulnerable to a range of critical challenges. The seriousness of the Ebola outbreak was due to pre-existing conditions resulting from all of the above issues. Mistrust of government because of corruption and other despotic practices resulted in delays in taking government warnings and sensitisation messages seriously (Sisay et al., 2018; Thomas, 2014). The health system had limited resources which were poorly managed. Neither individuals nor services were able to cope with the pressure resulting from the crisis (The Global Fund, 2017).

In 2017, two years after Ebola, a mud-slide killed 1000 people in Freetown (including 4 EducAidians) and hundreds lost their homes and all their possessions (including 84 students and 7 staff from one EducAid school). Although assisted by heavy rainfall, poor governance and law enforcement contributed greatly (Macarthy, 2017). The disaster was predicted eight years before in a documentary film (Lost Freetown) and could have been prevented by appropriate governmental action (Parvez, 2009). The next crisis cannot be predicted but poverty, corruption, a history of coups and conflict, and high rates of unemployment are all conditions that keep Sierra Leone vulnerable to hazards (Acaps, 2015) and unattractive to investors (Collier, 2007).

⁹ The index, which ranks 180 countries and territories by their perceived levels of public sector corruption according to experts and businesspeople, uses a scale of 0 to 100, where 0 is highly corrupt and 100 is very clean (Transparency International, 2017)

k. Sierra Leonean Education

Data

Reliable information about national standards is difficult to obtain. The Ministry of Education Country Status Report for Education only gave statistics up to 2011 (MEST, 2013). It showed English pass rates in the senior public exams, the West African Senior Secondary Certificate Examination (WASSCE) having dropped from 17 to 14% and Maths from 5.2 to 3.2% over the period from 2007-11. The table 4.3 summarises results from 2008-2011. In that period, between 0.6% and 1.1% of all candidates obtained credits in five subjects including English Language and mathematics (the generally accepted requirement for university entrance). The rate of failure in all subjects ranged from 17% in 2008 to 21% in 2011. The 2012 results are not readily accessible but caused such concern that a committee was established to advise how they could be improved (Gbamanja, 2012). This led to the 2013 exams being cancelled in order to enforce a recommendation for an additional year of senior secondary schooling.

Table 4.3 Statistics of WASSCE Results (2008 - 2011) in Sierra Leone (MEST, 2013)

YEAR	CANDIDATE ENTRY			CANDIDATE SAT			No. of Candidates with Credits in 5 Subjects Including English Language and Mathematics			FAILURE (F ₅ in ALL Subjects)		
	Male	Female	TOTAL	Male	Female	TOTAL	Male	Female	TOTAL	Male	Female	TOTAL
2008	16,503	7,444 (31%)	23,947	16,274	7,297 (31%)	23,571	118 (0.07%)	32 (0.04%)	150 (0.06%)	2,164	1,875 (26%)	4,039 (17%)
2009	19,880	9,364 (32%)	29,244	19,179	9,087 (32%)	28,266	156 (0.08%)	90 (1%)	246 (0.09%)	2,690	1,820 (20%)	4,510 (16%)
2010	23,318	12,023 (34%)	35,341	23,039	11,894 (34%)	34,933	233 (1%)	124 (1%)	357 (1%)	3,746	2,797 (24%)	6,543 (19%)
2011	28,810	16,513 (36.4%)	45,323	28,611	16,415 (36.5%)	45,026	350 (1.2%)	136 (0.08%)	486 (1.1%)	5,241	4,037 (25%)	9,278 (21%)
Source: West African Examination Council (WAEC), 2012												

The WASSCE serves as the university entrance examination. It is written centrally by the West African Examinations Council (WAEC) for all participating countries: Nigeria, The Gambia, Ghana, Liberia and Sierra Leone. WAEC in Sierra Leone is responsible for the design and administration of the National Primary School Examination (NPSE) which serves as the gateway to junior secondary school and the Basic Education Certificate Examination (BECE), the gateway to senior secondary school. Unfortunately, more recent national data

from the NPSE and BECE exams is not available and data at school level is widely regarded as unreliable due to problems in the administration and marking of examinations.

Education Spending

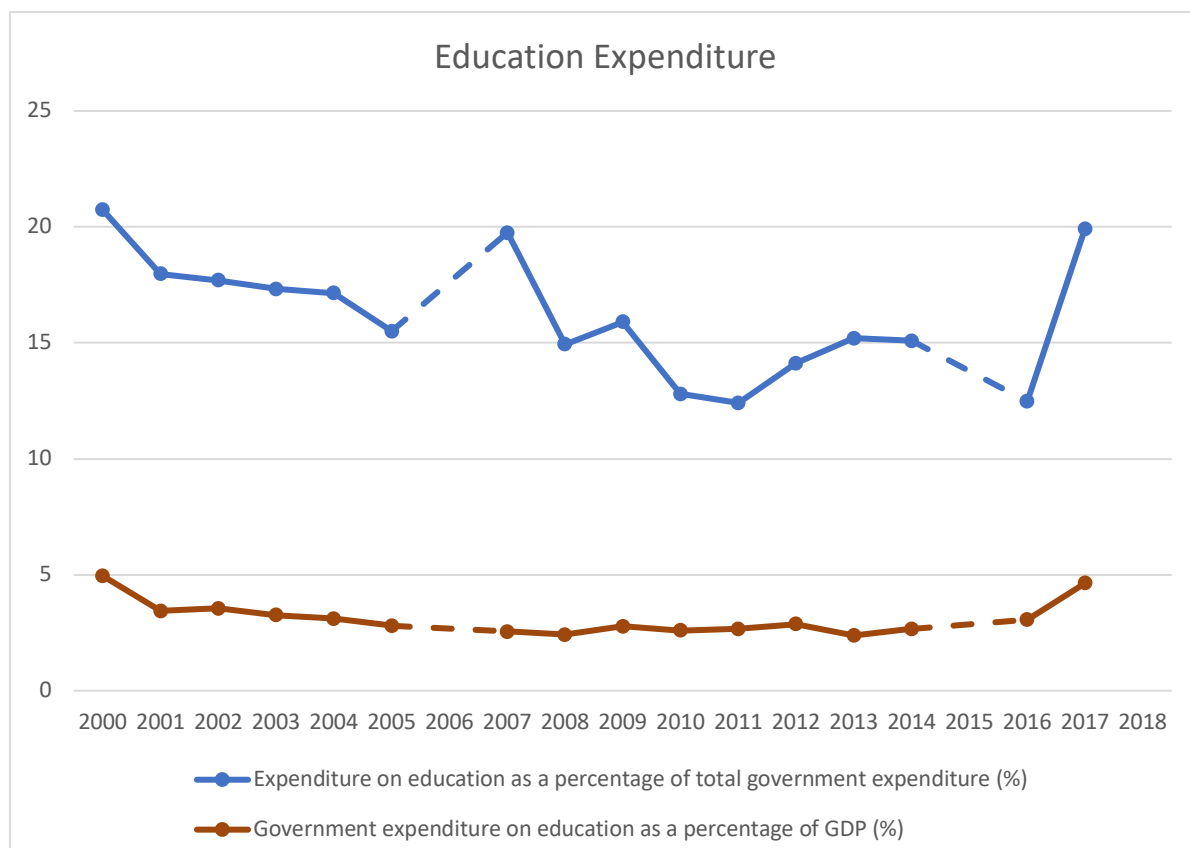


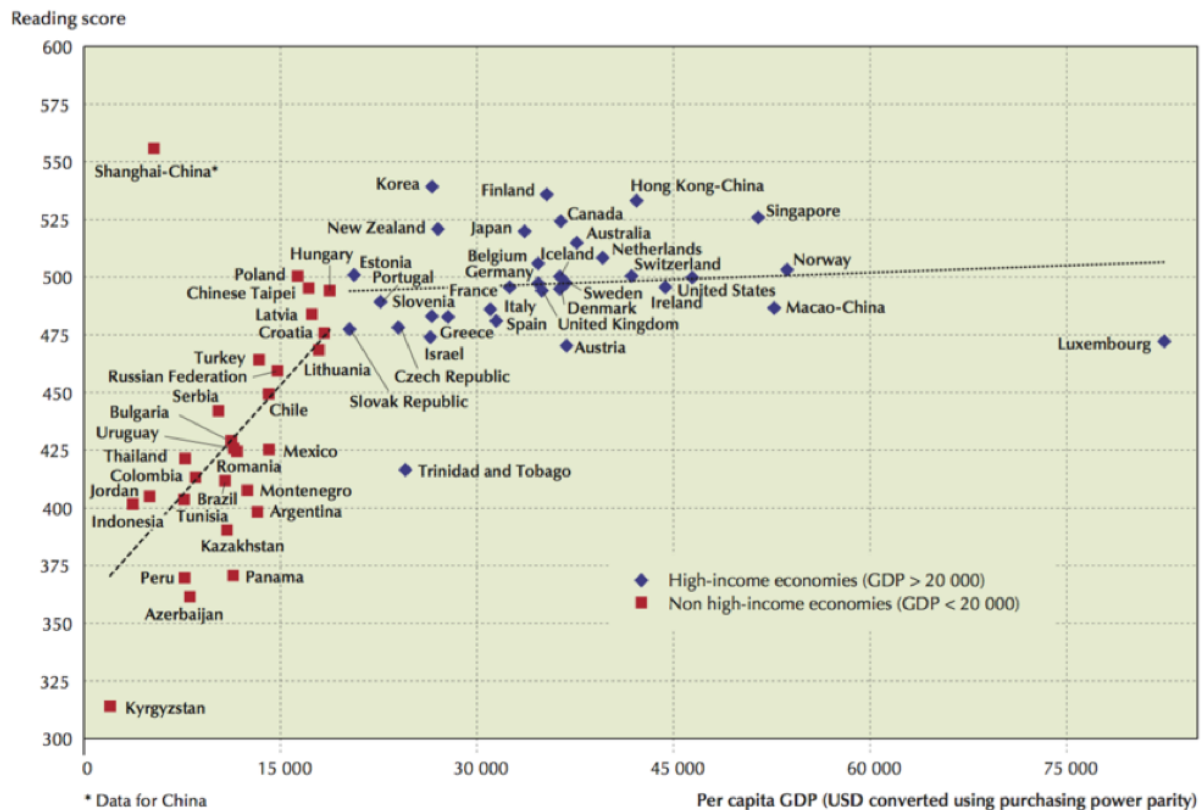
Figure 4.2 is a graph showing Sierra Leone’s expenditure over the last two decades. The government that came into power in Sierra Leone in 2018 has committed to spending 21% of GDP on education representing an enormous change in priorities (Bio, 2018). Despite this commitment, the proposed budget for recurrent costs only in education ‘*High Scenario*¹⁰’ is estimated at Le 11.07 trillion against an allocation of Le 5.78 trillion giving a financing gap of Le 5.28 trillion over the Plan period’ (Mambo, 2019 p17). Even the ‘Low Scenario’ funding gap is Le 3.03 trillion. The low scenario is equal to no improvements on the current situation which still leaves 19% of school age children out of school (Government of Sierra Leone, 2018). The spending will increase but whether it will be sufficient to keep the promises remains to be seen.

Sierra Leone faces an uncertain future, but the trends discussed below relate to the past few years. Although Sierra Leone does not participate in international comparisons, evidence

¹⁰ Three budgets were prepared: high, medium and low scenario for presentation to the donor community.

from PISA (2009) provides indirect evidence that educational standards are likely to be low. Figure 4.3 shows a strong tendency for lower spending countries to have below average reading performance. The comparison in Figure 4.3 of average spending per student aged 6-15 with reading performance shows a broadly similar pattern (PISA, 2009).

Figure 4.3 Average reading performance in PISA and national wealth (per capita GDP) (OECD, 2012)



A compounding factor, as in much of the region, is that the school curricula tend to be very content heavy as required by the very formal examinations administered by the West African Examinations Council (WAEC). These exams are slow to change, due in part to the aforementioned fears around educational 'adaptation' to an African context (Dillard, 2012); there is strong resistance to change in the syllabi and exam structure. Where assessments focus on content, teaching too focuses on content and far too often on rote-learning or 'banking' (Freire, 1970).

The education workforce

Examination of the teacher workforce in Sierra Leone reinforces the rather bleak picture of education. All primary school teachers are theoretically required to have at least a Teachers' Certificate¹¹, requiring three years study post-secondary school, teachers in Junior

¹¹ The Teachers' Certificate is three years post-secondary school, but the entry requirement is very low and often not enforced. Some Teacher Training Colleges in a recent unpublished survey by the Education

Secondary must have a minimum of the Higher Teachers' Certificate, requiring three years post-secondary school study, and at Senior Secondary School a minimum of a degree. The reality bears little resemblance to this theory, however. Only 29.33% of primary school teachers have received the minimum organized teacher training and overall only 52% of teachers at all levels have received any training (MEST, 2013). The problem is further aggravated by the questionable quality of the training. As the Country Status Report for Education (MEST, 2013, p. 123) makes clear, *'(i) the courses are theoretical, lacking teaching practice, pedagogical skills components, field trips and laboratories; (ii) programmes are at risk of becoming out-dated due to lack of regular review; (iii) teaching methods are inadequate, essentially lecture-based, and exams testing mainly cognitive skills and memory; and (iv) most students following Teachers' Certificate or Higher Teachers' Certificate Primary training are among the poorer WASSCE performers, putting the starting level of teachers' competencies at a low level'*. Moreover, 60% of teachers are not on the government payroll (Ministry of Education, Science and Technology, 2013). The poor terms and conditions, low and delayed salary payments and large numbers of teachers paid only by the community result in complex problems of demotivation (Nishimuko, 2007). Added to this is Sierra Leone's great rural / urban divide in the provision of basic services including education. At every level, what is difficult in general is even more significantly so in the rural areas. Those with qualifications are more likely to want to stay in the city, and those in the city are more likely to have access to resources to improve themselves: reading materials, training and opportunities for exposure to classroom or classroom like experiences (Ministry of Education, 2007).

The link between poor pupil achievement and poor teaching is clear (Adu-Yeboah, 2012). The problems start with the academic standards of the teachers themselves. In a high-income country context, one can assume that teachers already have good subject knowledge and skills. Therefore, CPDL and even initial teacher education (ITE) focus on learning new techniques to communicate their knowledge and skill and induct new learners into their field. The minimum requirement for becoming a teacher in most higher income country contexts is a bachelor's degree, whereas the minimum qualification for becoming a primary school teacher in Sierra Leone is the Teacher's Certificate. There are still two

Workforce Initiative (EWI) reported requiring applicants for the 'distance' course only to have evidence of having sat (not passed) the WASSCE.

significant issues associated with this: firstly, those that undertake the teacher's certificate generally do so because they do not have the entry requirements to undertake a higher-level course. No assumptions can be made about competent literacy or numeracy levels among rural Sierra Leonean teachers. Experience has taught that significant support must be given to the teachers' own literacy and numeracy as well as to their pedagogical knowledge. Appropriate CPDL intervention must include such support and must work from this low base as its starting point. This situation may be particularly serious in Sierra Leone but is not surprising given the findings across most of Sub-Saharan Africa (Akyeampong et al, 2011).

This chapter reviewed the literature and research on the political and societal situation across Sub-Saharan Africa and then the state of education. It then examined Sierra Leone in particular as an example within the region. There are similarities with many other low-income countries, but Sierra Leone is itself one of the countries with the most challenges politically, socially and educationally. Efforts to support improvements in individual schools and in the education system have to consciously start from a very low base and work on numerous levels to support government as it endeavours to challenge low levels of teacher knowledge, skill, motivation and commitment. Corruption and bad governance are oppressive and violent, and can only be challenged through a genuine education of the oppressed (Freire, 1970). While Freire's ideal may be desirable everywhere, where inequalities are great and leave the oppressed in gross poverty, the case is even more pressing. To a certain extent, strong governance protects against the extremes of oppression so where there is a weak rule of law, the moral imperative for this sort of radical change in the system is even stronger.

I. What questions emerge from the literature that has been reviewed?

At the end of the previous two literature chapters, I have identified questions that emerge from the literature on school improvement. With the additional perspective gained through this review of the education situation in low-income countries and specifically in Sub-Saharan Africa, the questions can be further refined: Is it possible, in a Sub-Saharan African context such as Sierra Leone, to provide CPDL interventions that support school improvement sustainably through a focus on improving school leadership, relationships amongst all school stakeholders and through the re-establishment of a values-led community?

Chapter 5

Emerging Research Aims and Objectives

a. Introduction

This chapter draws the thinking together from all three literature-review chapters and outlines the resultant research aims and objectives.

b. Broad Research Aims and specific objectives.

Chapter 1 concluded that there were six broad aims of the research.

The rest of this chapter will explore these aims in greater depth and identify more specific objectives in the light of the literature reviewed. Each broad aim will be reviewed in turn.

Aim 1. To assess critically the evidence that EducAid schools were unusually effective in their students' academic achievements and/or in catering for their psychosocial needs.

In order to understand the degree to which EducAid schools were unusually successful, it is important to understand how schools are identified as effective or not and how the school's impact on student outcomes can be measured. Specific objectives of this research are therefore:

- 1 To compare EducAid examination results with national results and results from local schools.
- 2 To find evidence that indicates whether EducAid's exceptional exam results, if confirmed, could be attributed to a less disadvantaged intake than local schools.

This aim and linked objectives are addressed in Chapter 6.

Aim 2. To identify which, if any, features of EducAid schools might be adopted in government schools

In the school improvement literature, even though governments may be committed to encouraging seemingly successful schools (Armstrong, 2015; Chapman & Muijs, 2013) to support less successful or failing schools, there has been little public or academic debate on how to identify features of effective schools that could – and could not – transfer to schools with different student intakes, facilities, resources and forms of governance. This aim is addressed in Chapter 7.

Aim 3. To design a school improvement programme based on CPDL in the Sierra Leonean resource-constrained context

Research on the role of a structured CPDL programme in school improvement may be quite limited in high income countries such as the UK, and research into effective school improvement programming in low-income country contexts such as Sierra Leone is growing slowly (Bold et al., 2017). Specific objectives for this broad aim therefore focus on the need to understand the relevance and applicability for Sierra Leone of learning in Western countries and where possible in other Sub-Saharan African countries and other low-income countries. Specifically:

- 1 To improve students' literacy and numeracy (Glewwe & Muralidharan, 2015).
- 2 To strengthen intra-school and inter-school collaboration (A. Hargreaves & Fullan, 2012).
- 3 To address the problem of in-school application of training conducted outside the school (Cordingley, 2015a).
- 4 To identify appropriate means to support school leadership (Robinson, 2007).
- 5 To suggest strategies for improvement of relationships between school staff, parents and community stakeholders (Atuhurra, 2016; Pritchett, 2013b).
- 6 To make progress in developing a values-led school community (Kamii, 1984; Zhao, 2016).

This aim and linked objectives are addressed in Chapter 8.

Aim 4. To obtain and assess evidence showing whether students' performance had improved by the end of the school improvement CPDL programme and at follow-up.

Bearing in mind the challenges in interpreting proxies for school improvement that have been used in high-income country contexts, it is important to identify appropriate and reliable measures for student performance. Specific objectives linked to this broad aim are therefore:

- 1 To find an alternative to often unreliable formal measures of students' academic performance such as public examination results.
- 2 To collect reliable data on attendance.

This aim and the accompanying objectives are addressed in Chapter 12.

Aim 5. To identify problems and possibilities associated with well-motivated but largely untrained teachers delivering school improvement programmes, and collecting data for an evaluation, with only arms-length supervision from the Country Director.

One constraint on school improvement and education system rehabilitation programming is the adoption by foreign aid experts of priorities and programmes that are not only expensive but also not based on the local culture and context (Galloway, 2006). Where Sierra Leonean researchers, trainers and facilitators can be used to implement a programme, the programme becomes immediately more likely to be sustainable. In light of this evidence specific objectives are:

- 1 To investigate the level of support and training needed for a non-specialist team in order to deliver a high-quality programme.
- 2 To investigate the supervision levels required in order to ensure compliance between the facilitators' training and their implementation of the programme.

This aim and linked objectives are addressed in Chapter 14.

Aim 6. To throw light on aspects of the programme that the teachers, pupils and other stakeholders experienced as strengths and weaknesses of the programme.

The research aims to find means of understanding the perceptions of participants and beneficiaries of the intervention, within the context of a culture where challenging authorities and particularly foreigners, is unusual and uncomfortable. Specific objectives of the research are:

- 1 To provide data on teachers' experiences of the intervention.
- 2 To provide data on students' experience of the intervention.
- 3 To provide data on other stakeholders' experience of the intervention

This aim and linked objectives are addressed in Chapters 13 - 14.

The next section discusses EducAid's justification for and construction of a CPDL based school-improvement programme in three chapters.

Section 3

Justification for & Construction of a CPDL-based School Improvement Programme



Chapter 6 – Justification (1)

Is there robust evidence that EducAid schools were unusually successful in their students' academic achievements and / or in catering for their social needs?

a. Introduction

This chapter focuses on the first aim of the thesis: *To assess critically the evidence that EducAid schools were unusually effective in their students' academic achievements and/or in catering for their psychosocial needs.* The chapter outlines the methods used to evaluate whether EducAid schools provide better than average academic and psychosocial support to their students.

The request from school proprietors to provide workshops had implications for EducAid's future. Before agreeing, the management team and staff needed to consider other models of inter-school collaboration. Funding had to be secured and the Ebola crisis in 2014/15 created further delays. Of equal importance was the consideration that staff saw their expertise as running schools for the most disadvantaged children in one of the world's poorest countries, not in teacher education and training. They believed that within Sierra Leone their students were unusually successful educationally and socially, but they had no independent evidence. They recognised major differences in structure and in educational philosophy between EducAid schools and the day schools they were being asked to help. As well as being partially residential, the differences included curriculum organisation, pedagogy and staff recruitment. In short, they were unsure whether they could design a programme that would benefit teachers in other schools, and then deliver it and submit it to rigorous evaluation.

b. Challenges with collecting statistical data in Sierra Leone

The reason for collecting data on public examination results was straightforward. There are limitations in such data as a measure of school effectiveness, not least that they overlook the social aims of schooling (Zhao, 2016). Nevertheless, if the data showed that EducAid

students were performing at a higher level than students in schools nationally, or schools locally with a comparable student intake, it would support the view that EducAid staff might be able to help other schools. Initially, to establish if EducAid's reputation was justified, there was a plan to compare EducAid's exam performance with national data. However, one of the many challenges with an investigation in this context is that of accessing data, even data that in other countries would be in the public domain. Maybe due to a fear of reputational damage/embarrassment when poor exam performance data are exposed, it can prove difficult to persuade schools to provide access to their pupils, staff or indeed to their exam results. The most up to date national data available was in the Country Status Report for 2013 and only used statistics up to 2011 (MEST, 2013).

Due to low technological capacity, Ministry of Education provincial offices do not readily access data on school statistics and public examination results. The Freetown Ministry of Education would, in all probability, have data on exam results at district and school levels but is reluctant to give information to third parties. Many months were spent unsuccessfully trying to access recent exam results. The local education authorities were cooperative and understood the need for data as part of a more general determination to support education development in the area. Through their kind offices, after over a year's endeavour cooperative data collection started within two schools in the local town near one of EducAid's well-established senior secondary schools. There is one other Secondary School in the town but their data were not made available. EducAid has two senior secondary schools, one in Freetown and one in the Northern Province. The latter was selected for the purposes of this research because data were not available for comparison with other schools near the Freetown school. The three schools where data were collected are all in the Northern Province of Sierra Leone.

An important concern is public exam result credibility. Consistently, EducAid staff have found NPSE results, when available, to be effectively meaningless. It is an open secret that for a small 'transport contribution', the invigilating teachers read out their suggested answers from the centre of the exam hall. As four of five papers are multiple choice questions this is easily done. Consequently, schools in which children can barely read or write a word can obtain 100% pass rates in the end of primary exams that give them access to junior secondary schools. Where schools endeavour to prepare their students well and undertake exams in transparent conditions, they may find themselves targeted for unfair

treatment by invigilators. For example, in EducAid primary schools, students are ‘frisked’ by their teachers before the NPSE to ensure they have no money for bribing invigilators. In a previous round of examinations, when EducAid students failed to pay their ‘transport contribution’, their maths papers were distributed 30 minutes late in a 45-minute exam session, causing all the children to fail that paper. The aim was presumably to teach the children that failure to comply with the invigilators’ corrupt norm was unacceptable.

While corruption exists at higher levels, it is more difficult and less overt. Because WASSCE exam questions are more complex and this examination is centrally managed by the West African Examinations Council (WAEC) office in Nigeria, there are more checks and balances but corruption is rife across the whole education sector (Transparency International, 2010) and truly transparent exams are hard to find at any level. WASSCE data are considered usable but not infallible.

While not a measure of learning but of a pre-requisite for learning, attendance data, when original registers are available, can also provide relevant information.

To understand relative levels of social and economic advantage between the EducAid school population and the schools with which it was compared, some measure of disadvantage was sought. In the British education system free school meals (FSM) is a proxy for socio-economic disadvantage, but there is no such readily available equivalent in Sierra Leone. The best alternative I could suggest was information about students’ parents and/or their guardians who funded their education. Extensive anecdotal evidence from local staff suggested there would be an ascending level of disadvantage from:

- 1 Students with both parents alive.
- 2 Students with only one parent alive.
- 3 Students with neither parent alive.

And:

- 1 Students whose fees were paid by a guardian who was a parent.
- 2 Students whose fees were paid by a guardian who was a close family member.

- 3 Students whose fees were paid by a friend or the government.
- 4 Students with no guardian who could pay their fees.

c. Available statistical data

Ultimately, the data that it was possible to obtain consisted of:

- National data for the WASSCE from 2008 to 2011,
- Incomplete senior public exam results for the three schools for 2012, 2014 and 2015. These were incomplete because data from one school were missing for 2014,
- Research undertaken on Sierra Leone's schools, exploring participatory learning practices that directly compared EducAid's practices with those found in other schools,
- Snapshot socio-economic data for one full year group (Senior Secondary 2) in each of the three secondary schools in the same town in the North of Sierra Leone.

Public exam data.

The national overview results for the WASSCE from 2008 to 2011 were obtained from the Country Status Report (MEST, 2013). After many visits to the relevant Ministry offices in Freetown and in the relevant district office, eventually through the support of the local Ministry officials some senior examination data were sourced from two nearby secondary schools. The results for 2012, 2014 and 2015 were obtained with results from one school missing for 2014. Because of a temporary change in the approach governing senior secondary schooling due to a particularly bad series of WASSCE results nationally, compulsory senior secondary education was extended from three to four years. To enforce this decision, the 2013 WASSCE were cancelled. Consequently, there are no 2013 results available as there were no 2013 exams.

Table 6.1 shows the frequencies and mean scores for each group. Although 81% of EducAid students gained credits in five or more subjects, only 1% achieved this level nationally, and 7% in two local schools.

Table 6.1 – WASSCE results nationally (2009 – 2011), EducAid & 2 local schools (2011-2015) (MEST, 2013)

	Achieved ≥ 5 credits	Achieved ≤ 4 credits	0 credits, all subjects	Total
National ¹	1239 (1%)	108246 (81%)	24370 (18%)	133855
2 local schools	83 (7%)	1131 (90%)	33 (3%)	1247
EducAid	124 (81%)	32 (19%)	0	156

Table 6.2 shows WASSCE results for EducAid and the two local schools for 2012, 2014 and 2015. Data for school 2 were not available for 2014 and, as explained above, the exams were cancelled in 2013. In addition, EducAid had remained open to homeless students during the Ebola epidemic but the closure of state-funded schools affected the number of entrants for the 2015 exams from schools 1 and 2 when the country was recovering. With that caveat, the data show between 73% and 100% of EducAid entrants gaining at least five credits compared with 0% and 11% in the two local schools.

Table 6.2 - Frequency table showing the number of candidates to sit the WASSCE in each school¹²

Year	School	Achieved ≥ 5 credits	Achieved ≤ 4 credits	0 credits, all subjects	Total
2012	EducAid	32 (100%)	0 (0%)	0 (0%)	32
	School 2	16 (6%)	226 (89%)	13 (5%)	255
	School 3	60 (11%)	492 (88%)	6 (1%)	558
2014	EducAid	47(80%)	12(20%)	0 (0%)	59
	School 2	5 (3%)	140 (89%)	12 (8%)	157
	School 3	-	-	-	-
2015	EducAid	45 (73%)	17 (27%)	0 (0%)	62
	School 2	0 (0%)	112 (99%)	1 (1%)	113
	School 3	2 (1%)	161 (98%)	1 (1%)	164

Family and Socio-economic data

While Tables 6.1 and 6.2 suggest that EducAid results on the WASSCE were better than schools nationally and than two local schools, they do not show how the level of

¹² Tables 6.1 and 6.2 both show the number of entrants, with schools 2 and 3 having much larger entries than EducAid. From 2014, nationally all students who had satisfactorily completed four years of senior secondary schooling were eligible for entry and in the two local schools it is believed that all eligible students were entered. However, completion of four years senior secondary schooling did not mean that the students were ready to sit – and pass – the WASSCE. In contrast, EducAid’s policy was not to enter students until they were considered ready to sit the exam. Some students were entered after five or more years of senior secondary schooling

hypothesised disadvantage of EducAid students compared with that of students in two local schools. Clearly, if EducAid was admitting more prosperous or privileged students, this would limit the conclusions one might draw about the school's own impact on its students.

In order to explore this, interviews were conducted with all the students who attended on a particular day in a particular year-group in each school (EducAid – 85 students, School 2 – 153 students; School 3 – 102 students). Students in Senior Secondary 2 (SS2) were interviewed, with two questions: (a) Whether both their parents were alive, and if not whether one parent was living; (b) Whether the person responsible for paying their school fees was a parent, a family member, or someone else. If none of these, the student was asked to confirm that they had no guardian or source of funding. (With EducAid students the wording was modified in light of EducAid's policy on fees; the reference to fees was removed).

Tables 6.3 and 6.4 show that from a sample year group of senior secondary students in the three schools (i) EducAid had more children with both parents dead than both schools 2 and 3 (17.6% versus 11.1% and 3.9%). (ii) 68.2% of 85 EducAid students had parents as guardians as opposed to school 2 which had 64.7% and school 3 which had 73.5%. But, EducAid had higher numbers of children with no guardian: 16.5% having no guardian, whereas Schools 2 and 3 had 5.2% and 2.9% respectively. These figures suggest that EducAid may have had a higher proportion of disadvantaged students.

EducAid's internal quality assurance systems.

EducAid's ways of working provide some additional evidence for consideration. A key component to EducAid's pedagogy is the requirement that all students manage their own personalised pathway, in negotiation with their teachers, through the entire syllabus by working through pre-prepared workbooks independently one unit at a time, seeking help from a peer or a teacher as required. Once a student has completed their learning activities,

Table 6.3: Parental status of all students in a sample year group in each of the three schools

School	Parents alive or not	Frequency	Percentage
EducAid	Both parents are dead	15	17.6
	1 parent alive	29	34.1
	Both parents alive	41	48.2
	Total	85	
School 2	Both parents are dead	17	11.1
	1 parent alive	48	31.4
	Both parents alive	88	57.5
	Total	153	
School 3	Both parents are dead	4	3.9
	1 parent alive	35	34.3
	Both parents alive	63	61.8
	Total	102	

Table 6.4: Students with guardians in a sample year group in each of the three schools

School	Guardian	Frequency	Percentage
EducAid	Parent	58	68.2
	Family member	13	15.3
	Other	0	0.0
	None	14	16.5
	Total	85	
School 2	Parent	99	64.7
	Family member	43	28.1
	Friend	1	0.7
	Government	2	1.3
	None	8	5.2
School 3	Parent	75	73.5
	Family member	24	23.5
	Other	0	0.0
	None	3	2.9
	Total	102	

they apply to sit a unit test. On passing the unit test with 70% or above, they are deemed fit to move on to the next unit. Students are only allowed to sit the screening exam and enter for the public exam if they have covered at least 75% of the syllabus, in other words passed 75% of each subject's unit tests. Additionally, they are allowed into the exam class when they achieve at least 60% in all subjects in the screening exam. The unit tests and the screening exams are WASSCE standard and style questions to make sure that students are well-prepared to face the exam with confidence. The records for all of these processes are kept centrally for monitoring by the organisation's authorities. The closest equivalent in other secondary schools is the end of term exam records but these are rarely used to preclude a student from moving into the next class or from entry to the exam class.

Limitations in these data

While all of the above is true, it also presents a limitation to the comparability of the data.

EducAid's own internal Quality Assurance procedures meant that criteria for entry to the WASSCE were different between EducAid and the two local schools because progression was almost inevitable in government schools.

An imperfect proxy.

The parent/ guardian data are imperfect proxies for socio-economic status and can only be taken as indicative. It was impossible to obtain information on the validity of the parent / guardian status. To demonstrate the validity of this information, I would need to show that the hypothesised ascending levels of disadvantage are indeed associated with lower performance in the WASSCE (or some other measure). That would have required a large-scale survey and could have been a PhD in its own right.

Data on parent/guardian status were collected at student level. Exam results are at school level. Hence there is no information about whether the actual students entered for the WASSCE in EducAid were more or less likely to have the hypothesised indicators of disadvantage. It is possible that EducAid only entered its least disadvantaged students. Anecdotally it is understood that the more disadvantaged students in EducAid are resident for at least 265 days a year and, anecdotally, they do better than day students. However, investigating this was beyond the remit of this research.

Other available data: 1. Independent research into EducAid's pedagogy.

Considering EducAid's opinion that education is not purely about satisfying the cognitive requirements of students but also their social requirements, it is important to see in what ways EducAid's methodologies might support these concerns in other schools and how they might be incorporated into any school improvement programme provided by EducAid. The data available for this aspect came not only from examining EducAid's own records and practices but also from small scale independent research. Jah (2009) investigated participatory learning in Sierra Leonean schools and included a comparison of practice in EducAid with other schools she visited and cited EducAid as 'an exception that proved the rule' (Jah, 2009 p86). Jah highlighted the following as key differentiating elements that she encountered:

- Meaningful participation in classroom learning
- Open flow of communication between teacher and students
- Students are encouraged as critical thinkers
- Participation in learning in a variety of ways
- Shared ownership of the learning process through participation
- Participation according to the student's individual pace with personalised learning

Table 6.5 shows the six aspects of the students' participation that she identified:

- Activeness
- Interactiveness
- Reflectiveness
- Effectiveness
- Inclusiveness and fairness
- Meaningful participation or not

She found in each category that there were distinct differences between how EducAid classrooms and conventional classrooms were run but also between how EducAid students and students in conventional schools behaved. Her experience aligned with many of the aims that EducAid has identified for itself in terms of independent learning and thinking, participation, proactive behaviours, and interacting constructively and respectfully with each other and the teachers.



In Jah's second table (Table 6.6), she explored empowerment. Empowerment is not specifically part of the usual EducAid language but reflects what Jah saw as a positive difference between EducAid's provision for social development and that of other schools.

Limitations of Jah's research

The significance of Jah's (2009) findings are indicative only and must not be overemphasised. Her research was a small-scale study undertaken through semi-structured

interviews, in-depth interviews, group work and school observations as part of studies for her Masters' degree¹³. It is not a published or peer-reviewed piece of work.

Table 6.5 Classroom Participation: Conventional Schools and Universities vs EducAid Schools (Jah, 2009)

Classroom Participation: Conventional schools and Universities	Classroom Participation: EducAid
activeness: <ul style="list-style-type: none"> ➤ passive behaviour of students; lessons are teacher-centred ➤ if participation takes place then only in form of asking and answering question 	activeness <ul style="list-style-type: none"> ➤ proactive behaviour of students; lessons are student-centred ➤ participation in multiple ways
interactiveness <ul style="list-style-type: none"> ➤ lessons are teacher-centred; mostly top-down 'interaction' from teacher to students <p>Teacher</p>  <p>Top-down interaction; Mostly from teacher to student(s)</p> <p>Student(s)</p>	interactiveness <ul style="list-style-type: none"> ➤ lessons are student-centred; interaction takes place between teacher and student(s) but also between students and students; "teacher as head among equals" <p>Teacher</p>  <p>Student(s) ↔ Student(s)</p>
reflectiveness <ul style="list-style-type: none"> ➤ no independent and critical thinking ➤ focus on memorization of facts; knowledge-centred/ examination-centred 	reflectiveness <ul style="list-style-type: none"> ➤ independent and critical thinking encouraged ➤ focus on understanding, exploration and creativity
effectiveness <ul style="list-style-type: none"> ➤ teachers impose their views, students' views are not considered 	effectiveness <ul style="list-style-type: none"> ➤ students critically discuss with teachers; students' views are considered
inclusiveness & fairness <ul style="list-style-type: none"> ➤ only strong students can follow the lesson and participate 	inclusiveness & fairness <ul style="list-style-type: none"> ➤ personalised learning, tailored to individual needs, students participate based on their capacities
<p>➔ no meaningful participation:</p> <p># (inter)active, # reflective, # effective; # inclusive and fair</p>	<p>➔ meaningful participation:</p> <p>= (inter)active, = reflective, = effective, = inclusive and fair</p>

¹³ Jah's research contributed to a Masters' degree jointly awarded by the universities of Bordeaux and Stuttgart.

Table 6.6 Empowerment: Conventional Schools versus EducAid Schools (Jah, 2009)

Empowerment Dimension	Empirical Indications: Empowerment of Secondary School Students from Conventional Schools ?		Empirical Indications: Empowerment of Secondary School Students from EducAid ?	
Individual Emp.	---		✓	
to know	(✓)	-students gain some knowledge through memorization and rote learning -low passing rate in public exams: JSS final examination: 40% in 2005 SSS final examination: 8% in 2005	✓	-students understand what they learn -analyze and interpret information -high passing rate in public exams: JSS final examination: 93% in 2005 SSS final examination: 97% in 2005
to act	---	-students tend to be reactive and hesitant -students rely on teacher	✓	-students work on their own, take up responsibility -are inclined to play an active role -are able to speak publicly, make presentations
to interact	---	-students show difficulty to utter ideas -don't seem comfortable to talk to elders -have difficulties to speak English -students often provoke each other in classroom	✓	-students take part in discussions and debates -are bold to address elders -speak English fluently -students are inclined to help each others, work in teams, relate positively to each other, are polite -students participate in community action
to be	---	-students seem to be shy and insecure	✓	-students are self-confident -have own ideas and develop own standpoint



Societal Emp.	---	✓
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Other available data: 2. EducAid's reputation.

Although league tables are not often published, the public exam results were twice broadcast at night over the radio. EducAid schools had in 2012 (EducAid Lumley) and 2014 (EducAid Rolal) performed best in the country in the WASSCE. No further formal statements were made by either the exams council or the Ministry of Education, and it was not possible to verify this announcement.

The request from other schools and from the local Teachers College for support reflects their perception of EducAid's reputation for high standards of work and behaviour. This perception is based on the experience of visitors to EducAid schools, the students' competence in spoken and written English and their performance in public examinations. Other achievements such as success in inter-school debates and quiz competitions were also noted on the professional grapevine. For example, EducAid Rolal has won all the inter-secondary academic competitions in the town since 2016: spelling bees, quiz competitions and debates.

Equally, EducAid students have been unusual in obtaining international scholarships from the governments of Morocco, China, Russia and Venezuela, not through their connections but based on their public exam results and their ability to interview well. In the Venezuelan case, the interviewers said their decision was also influenced by the recipient having undertaken community service (an annual requirement for all EducAid students).

The former Registrar of the University of Makeni said of EducAid students: *'EducAid students know their history and their mathematics but also they know how to learn what they don't know. They have been taught how to teach themselves.'* (EducAid Sierra Leone, 2016).

This reputation resulted in both the nearby teacher-training college, the Roman Catholic mission and other education stakeholders asking EducAid for support.

d. Conclusions

In addition to the limitations of other contributing data noted in the text, three problems are acknowledged with the data on EducAid's achievements in the WASSCE. First, only limited data on two other schools was obtained in order to compare them with one EducAid school. Second the demographic data are limited. Third, and potentially most serious, the data are based on the WASSCE, the senior secondary school leaving exam, but the question under discussion in this paper is whether there is adequate evidence of EducAid's effectiveness to justify providing a course for teachers in primary schools. These problems illustrate the difficulty in data collection in a low-income country, compounded in Sierra Leone by the closure of schools due to the 2014/5 Ebola outbreak. Recent national data are not available. This corresponds with chapter 4's discussions around data collection, storage management, retrieval and analysis in many low-income countries. At district and school level there is no systematic monitoring of standards. Nevertheless, the core values and approaches to pedagogy in EducAid's senior secondary school are the same as in the NGO's junior secondary and primary schools. The limited data provided here suggest that EducAid students perform at a higher level than those in neighbouring schools even though EducAid probably admits a higher proportion of socially disadvantaged students.

The evidence was sufficient to convince EducAid that it was not unethical to respond positively to the request for support and that they did indeed have something to offer. A key

conclusion, however, is the urgent need to strengthen data management systems in schools.

Many CPDL programmes do not seem to achieve much significant change in pupil behaviour and / or progress. We argue here that this is due to a series of missed opportunities. Firstly, unrealistic evaluations of previous programmes result in misplaced allegiances to programmes for which there is no evidence of success. Coe (2013) suggested that in the UK, at least, this may be due to a failure to address the key issues directly and evaluate teacher training and school improvement programmes realistically. Guskey, (2002) also argued that much poor professional development takes place, because activities are not realistically evaluated so the same things are repeated even though there is no evidence to suggest that it is meaningful or impactful. Secondly, interventions are often isolated and therefore miss out on the opportunity for proper consolidation through sharing of experiences. Some research indicates that networks are a constructive way of working to improve schools and ensure progress in professional development (Burbank & Kauchak, 2003). However, most CPDs still focus on individuals, losing the opportunity for cooperation and shared learning.

The next chapter will review the transferable and non-transferable features of EducAid's practice which then leads to the description of how the programme was designed.

Chapter 7 – Justification (2)

The transferable and non-transferable elements of EducAid's practice

a. Introduction

This chapter focuses on addressing the second aim of the thesis: *To identify which, if any, features of EducAid schools might be adopted in government schools*

As noted in the literature review (Chapter 3) many high-income country contexts actively encourage effective schools to support less effective schools. Some schools offering support are independent boarding and / or selective schools, and the schools they support are often working in quite different circumstances. This raises questions about which features of organisation and teaching practice in the effective schools could transfer to schools in a different situation. This question was also pertinent in the request from other schools in Sierra Leone that EducAid provide support and is the focus of this chapter.

b. Background

The literature indicates that there are many different examples of school collaboration and many formats for inter-school collaboration. Hargreaves and Fullan (2012) define social capital as professional supportive interactions between teachers (intra-school) and also between schools (inter-school) and further characterise it as essential for real systematic and sustained school and school system improvement. The idea that schools can help other schools is not new. However, the request that EducAid received was perceived to be unique in two ways. Firstly, we have been unable to trace any other examples of teachers in one group of schools delivering a structured programme of CPDL-based school improvement to teachers in other schools and secondly, it is the only example we can trace of schools with an exceptionally disadvantaged student intake providing a CPDL based school improvement initiative for teachers in other schools.

The most important guiding feature of EducAid's work is its vision and values. The social and cognitive purposes of education underpin its methods and it has spent the last twenty years evolving ways of working to deliver the quality of education that prioritises raising

citizens as much as passing exams. Its vision is of a dignified, democratic and globally engaged Sierra Leone where poverty is eradicated by educated citizens (see Chapter 1). This vision is to be achieved by six cross-cutting values (EducAid, 2017) as shown in figure 1.1.

Making this vision a reality requires at least as much attention to what students learn from the culture and climate of the school, and from *how* they are taught – the hidden curriculum (Freire, 1970; London, 2002) – as from the official curriculum and *what* they are taught. It entails demonstrating that there are alternatives to corporal punishment and sexual abuse that are rife in government schools and that the violence, trauma, neglect and abuse that many students experienced prior to admission need not define their future. So how are these ideals achieved in practice?

c. Methods for identifying the transferable elements of EducAid’s practice

The features of EducAid’s practice that were examined and how these were established is detailed below. Drawing on my own experience in running EducAid, and on EducAid’s formal monitoring processes alongside discussions with staff and students, a list of policies and practices that EducAid regards as important in contributing to its values and to its pupils’ success was established.

Once the list was established, some were identified as fairly easily transferable, some as non-transferable and others as having important under-pinning values but needing an alternative strategy to make them transferable.

EducAid’s Monitoring & Evaluation processes

In 2013, EducAid worked with a consultant to establish a monitoring and evaluation (M & E) strategy. Each year since then data have been collected from a randomised sample of students, selected by taking every 6th child on each register, as part of the formal monitoring and evaluation processes used to guide EducAid’s work. Included in the data collection process is that the selected students in the secondary school and those from the top two primary classes are asked to write about the “most significant change” (MSC) that has occurred in their lives in the previous twelve months. The MSC stories have been used to inform this discussion.

In addition, a member of the secondary school staff conducted semi-structured interviews with a convenience sample of eight teachers from the same two schools, three from the primary and five from the secondary school, focusing on their understanding of the school's social climate. These data too were used.

Discussions with staff and students

In addition to the more formal M&E processes, I held multiple informal discussions with staff and students about what they found different in EducAid from other schools, what strategies had been used within EducAid to overcome particular challenges that are experienced in other schools such as low levels of literacy and numeracy, how to create an environment of zero tolerance to sexual violence or abuse, how to manage behaviour without corporal or humiliating punishments.

Drawing from my own experiences running EducAid

I have run EducAid since 2000 and have been responsible for designing ways of working to address the issues I have encountered. While the values have not changed, there has been an evolution over the years in clarity and how to express and support the development of a common understanding of our purpose. It has taken much trial and error to establish what can work and what cannot, to learn how to support staff as their thinking evolves. I have had to learn how certain values can be strengthened through a variety of different approaches, and that there is not necessarily only one way of achieving a particular goal. In establishing a list of feasibly transferable features to be incorporated into an EducAid CPDL-based school improvement school improvement programme, I drew strongly from my own experience.

Many of EducAid's students have had stressful and potentially traumatic experiences prior to admission. In fact, one could argue that by virtue of having lived in Sierra Leone through the Ebola crisis, which all but the very youngest remember clearly, all Sierra Leonean youth have been through experiences that would elsewhere clearly class as traumatic. Some education reform programmes, such as the UK Aid supported 'Leh Wi Learn' support to secondary schools (DFID, 2018) have focused entirely on academic support. Other NGOs, such as the Pikin to Pikin Movement, (2017) work in schools but focus on human rights and psychosocial concerns or water and sanitation. EducAid has striven to address both

academic and social needs, recognizing the crucial place each play in enabling a young person to achieve their potential as well as allowing them to contribute positively to society more generally. In fact, it is the view of the organisation that one without the other results in a serious under-performance in both.

Through research, discussion and nearly two decades of experience developing programming within the EducAid schools, a list of features specific to EducAid was established and from this the range of priority transferable features or underlying values to be incorporated into any school improvement programme was decided.

- Numeracy and Literacy as a foundation
- Individualised learning that promotes independent & peer learning and critical thinking & values acquisition
- Promotion based on progress rather than longevity
- Restorative Justice & Respectful Approaches
- Gender equality programming
- Vertical tutor groups and families
- Community Service
- EVC: A way of working that emphasises that 'Every Voice Counts'
- Leadership learning
- Communication strategies amongst the leaders

d. The cognitive domain: Practices that EducAid regards as important

Of the practices that EducAid identifies as important three stand out as key to students' cognitive development. These are pedagogical strategies: (i) prioritisation of numeracy and literacy skills; (ii) individualised learning that supports independent and peer learning as well as critical thinking and values acquisition and (iii) that students are promoted from one level to another and particularly into exam classes based on their progress through the syllabus rather than on the number of years they have spent in the school.

Numeracy and Literacy skills as a foundation

Although the most distinctive aspects of EducAid's practice can be seen in how rather than what it teaches, it is important to note one key aspect that supports excellent academic

performance that we also aim to achieve. Identified across Sub-Saharan Africa as well as specifically in Sierra Leone is the terrible failure of large numbers of students to achieve basic numeracy and literacy skills (MEST, 2013). EducAid has specific strategies to address this through its entry level work. Every child arriving in an EducAid secondary school, irrespective of route and time of year, first joins an entry level class. In the entry level classes (either what is known as Group 2 if entering the Junior Secondary classes or Group B if entering the Senior Secondary classes) the entire focus is on maths and English (and learning to learn).

If a student goes into the higher-level subject classes without these basics in place, they will only be able to copy and will have no ability to study independently.

This practice makes possible the rest of the EducAid system which requires students to work independently through pre-prepared materials. A student in a traditional Sierra Leonean school can satisfy their teachers by simply copying diligently from the board. This is not regarded as learning in an EducAid school. A key component of education for democratic engagement is the support of independent, critical and higher-level thinking (Smutka & Tomšík, 2014). In EducAid, this is partially achieved through the development of appropriate pre-prepared materials that provide opportunities for higher-level thinking. The key concern of educating citizens and not just 'exam-passers' can start to be addressed.

Individualised learning that promotes independent & peer learning, critical thinking and values acquisition

Once students have reached the required standard in the entry-level classes, after a day of orientation to the new ways of learning, they work on their exam subjects, progressing independently through pre-prepared materials. They take responsibility for their own progress, negotiating their path through the syllabus with their teachers. All those studying a particular sub-topic sit together and become each other's first source of support if needed. Students become used to supporting each other's learning, meanwhile strengthening their citizenship, community and leadership abilities. One student explained:

'By me doing my group studies and meeting students to assist me, especially where I am lacking, through this process I was able to improve in many subjects and pass unit tests. It has really, really improved me through working hard, concentration, courage and

*seriousness. And now, I can boast of many things and also assist those that are down there.
[sic]'*

He has learned to take responsibility for his own progress and push himself hard to develop. He was helped and now is in a position to help.

No two students will have exactly the same path through the syllabus. The teachers work with each student according to their needs and organise them in different groupings. Students work through units in different sequences, dependent on the needs of each individual. Sitting around the same table may be students who will complete a given unit of work within a couple of days and others who will take some weeks. There may be some who are struggling with lack of self-confidence in the subject mixed in with those who are competent and quick in their learning. Students are actively encouraged on a daily basis to make sure they have helped someone and sought help from someone. 'Ubuntu' – a word from southern Africa meaning "I am because we are" (Thompson, 2017) – is a watch-word with which staff and students constantly remind each other of their inter-dependence and mutual responsibility to share, care for and support each other. The purpose-written modules cover the content of the national exams but also provide opportunities for students to interact with each other prioritising collaboration over competition. At the end of each school day, the children nominate each other for Ubuntu stars if they have demonstrated 'ubuntu' attitudes and behaviours.

Promotion based on progress rather than longevity

In government schools progression from year to year is often automatic, irrespective of attainment and without addressing the variety of needs within the class. In EducAid, there is a structure that is unrelated to how long students have previously attended school, how old they are or how long they have been out of school before their admission.

In recognition of the different standards that students have on arrival in the schools, EducAid devised a personalised learning system that encourages children to: (i) take responsibility for their own learning and (ii) learn with and from peers, supported by teachers. Progression depends on reaching a specified standard in each module. As explained in the previous chapter, promotion into the exam classes depends on students having covered a sufficient proportion of the syllabus rather than having completed a

certain number of years in school. This is also to avoid students rushing to sit content heavy exams before they are ready and sealing themselves into underachievement. The first time a student sits the examination, the government contributes to their costs. After the first attempt the government will not pay. If a student fails on their first attempt this may block any further progress through the system as each set of exams is a gate-keeper for the next stage.

Of these key areas of EducAid practice, which elements are transferable to other contexts?

Through discussion with partner schools and EducAid staff, it was concluded that on the one hand, none of these could be transferred intact to government schools as the frameworks they are required to work within would not permit the necessary flexibility or resources this would demand. On the other hand, the principles behind some practices could be used.

Policies / practices that need to be adapted for application in other schools.

Government schools expect students to engage in a range of subjects from the earliest classes and students must conform. It is however possible to engage all teachers to prioritise practices that support literacy and numeracy development within their teaching. Teachers need to realise that other subjects will suffer until children have this foundation. Research indicates that greater progress can be made with a slower approach rather than rushing on with an inappropriate curriculum pitched at an inappropriately high level in which almost no learning can take place (Pritchett & Beatty, 2015). Stopping to acquire literacy and numeracy can result in greater gains later.

Strategies to encourage independence in learners are considered vital. As EducAid's own methodology is unusual, it was not considered that this particular way of achieving independence needed to be emulated but the principle of independence was a concern. Peer learning too is used widely in other contexts with pair work and group work featuring regularly in most well-functioning classrooms across the world. Supporting teachers to foster both of these attitudes was considered important.

Promotion based on progress rather than longevity will not be accepted by schools or by the whole school system without major nationwide reform so there is little point spending time on this. The concern behind the strategy in EducAid however is that unless students have sufficiently and competently covered the syllabus they will fail in their exams. It would be

worth, at some point in a longer school improvement programme, working as far as possible on teacher subject content knowledge to address this problem from a different angle.

e. The social domain: Practices that EducAid regards as important

As argued by Sonuga-Barke (2019), the family environment is probably the most significant factor in ensuring success and resilience of traumatised youth. With this in mind, EducAid has worked purposefully to create a family environment for its pupils as well as requiring academic excellence. Because of significant scandals in orphanage systems in some countries, there is a danger of regarding the family as invariably the best place for a child without considering the particular context. For example, UNICEF (2016) have developed a global policy that is so pro-family that it now seems opposed on principle to nearly all orphanages even though this political correctness is challenged by some very senior experts (Mercer, 2014). Because of the extreme poverty that occurs in so many rural and urban families in Sierra Leone, it is the experience of EducAid that adding another child to some family homes can result in significant abuse and neglect. In response, EducAid aims on the one hand to provide a positive family experience within the institution but also to facilitate relationships with the blood family that are not relationships of dependence and therefore not so easily open to abuse.

Learning from global standards of children's rights (Global Initiative to End All Corporal Punishment of Children, 2015) and from the recommendations of the Truth & Reconciliation Commission for Sierra Leone (TRC, 2004a), EducAid has always had a zero-tolerance approach to corporal punishment, sexual abuse and harassment. However, this is not inconsistent with academic excellence. Students are encouraged to push themselves to be as academically successful as they can, but they are also taught that this is insufficient preparation for life and certainly not enough for them to achieve EducAid's vision. Accordingly, they access a range of opportunities to develop critical thinking, independence, leadership and citizenship behaviour.

Of the practices that EducAid considers important to achieving its aims, those that support the social development of the students include (i) Restorative Justice & Respectful Approaches; (ii) Gender equality programming; (iii) Vertical tutor groups and families; (iv) Community Service; (v) EVC: A way of working that emphasises that 'Every Voice Counts'; (vi) Leadership learning and (vii) Communication strategies amongst the leaders.

Restorative Justice & Respectful Approaches

In EducAid schools, corporal and humiliating punishments are banned. Teachers are encouraged to use restorative methods to support students to take responsibility for behaviours that will result in achieving their academic and social goals. This includes having agreed expectations that govern and guide the behaviour of all - including the teachers - within a given classroom. Students as well as teachers are responsible for upholding these expectations and hold each other to account when things have not gone as they should have.

There are also some students who are trained in peer mediation skills. These students are selected by staff and students in each tutor group and are called in if families and classes have been unable to handle an issue, ideally before it needs to involve the teachers. In line with creating a learning environment that learns from the best of family life, the focus for behaviour management is not the suppression of the bad but the celebration of good relationships. When a member of the school community has broken a classroom agreement or failed to show appropriate love and concern to a colleague, they are encouraged to put the relationship right by replacing the bad with a good. For example, if a child has been reprimanded several times for disrupting the class with too much talk, they will be asked to choose a task that will in some way serve the class and compensate for the lost teaching and learning time. They might offer to fetch the drinking water for the class or sweep the class after school in reparation.

If a child wants to argue about an issue, peer mediators may spend time talking to them so they realise the impact of their behaviours on the class. The teacher can intervene if the mediators are unable to resolve the situation but having one or two peer mediators to support them away from the public eye often enables a child to de-escalate an issue and make a good decision.

Gender equality programming

In response to gender inequality issues, EducAid has a dedicated Equality Team working across all EducAid schools providing girl-friendly programming, training male and female

staff, designing materials and workshops for the Girl Power Group¹⁴ and the White Ribbon Campaign¹⁵ clubs to provide an alternative rhetoric, narrative and behaviour dynamic for both the men and boys, and the women and girls. EducAid also has a Girls' Safe House where the resident primary school girls live. The safe house aims to provide an environment that undermines societal messages that disempower girls in the wider community. The norms within the house are respect, safety, strength and possibility.

The Women's Project is an accelerated learning project for secondary age girls with below secondary academic standards. It offers an alternative route to mainstream secondary schooling that bypasses primary school. It is a girls' only environment where girls can gain the competence and confidence they need to operate with excellence with their age group. The focus is on numeracy, literacy and self-esteem.

The pre-prepared materials cover the full syllabus for each subject, but they also seek consciously to develop critical and creative thinking, to provide opportunities for peer learning and to make the link to the EducAid values. For example, in order to challenge gender stereo-types, in as many science units as possible, the life story of a female scientist who works in that field of science is discussed.

Vertical tutor groups and families

All EducAid schools are divided into vertical tutor groups which are divided into peer-led mixed age families, each family led by a senior student. The students launder, study outside the classroom, undertake daily chores, eat and often sleep in their families. Every day, the families spend time together discussing issues such as: budget allocation within the school, the planning of up-coming events and challenges they have identified in the running of the school. The students then provide feedback to the school leadership. By creating a safe environment in which students can share ideas the family groups aim to teach the importance of relationships. The families are also the first point of contact if there are social or academic issues for an individual – the family is where any student can expect to get their first round of support whatever the concern. This provides opportunity for the

¹⁴ The Girl Power Group (GPG) focuses on giving girls knowledge about their rights and responsibilities as women as well as role-models of strong and inspirational women that they can emulate

¹⁵ The White Ribbon Campaign is a weekly boys' club that focuses on providing the boys with knowledge about their role in fighting for equality as well as what it means to be a really strong (i.e. not violent) man and role-models for them to emulate.

development of a safe space in a small enough unit for it to become one's school family. It also provides the opportunity for developing leadership, close and caring relationships and mechanisms for holding each other to account.

Community Service

Each year, all students, from Class 6 in primary school to the top end of secondary school, undertake a two or three-week period of community service. They learn the dignity and empowerment that is to be found in giving. If they have no money to give, they have their time, their skills, knowledge and love. They serve in nearby schools giving assistance to younger children in targeted areas such as reading or maths tuition, by helping in cross-country road repairs particularly during the rainy season when some villages get cut off, or helping with cleaning or with other chores in the nearby hospitals or clinics to highlight a few examples. They learn the principles of "passing it forward". Having received kindness themselves, they are encouraged to find opportunities to pass some kindness on to others.

Leadership learning

The students are given plentiful opportunities to develop their leadership thinking and behaviours. They are also encouraged to know that they have both the right and the responsibility to use their voice for the greater good. Some of the strategies that foster both of these include:

- *Prefects* – Prefects are selected by the student council which has representatives selected by the staff and students within each tutor group. Their role is to support staff in the day to day running of classroom and school activities. They take responsibility for tasks such as preparing the classroom, distributing and collecting in the learning materials and supporting their colleagues in attending punctually after breaks. In line with other pro-equality practices, there are always male and female prefects. Prefects receive training in appropriate democratic leadership styles.
- *Family leaders* – Family leaders are selected by the students in each tutor group. They are subsequently trained to be like parents (rather than bosses) in their family groups. They learn to make sure that every family member is looked after, gets their food even if they are doing an activity at meal time, and is supported by another family member or someone from another family for academic concerns.

- *Participating in lesson observations and the provision of feedback to teachers* – Each teacher is observed by a group of staff and students each term as part of an on-going concern to improve their teaching and the learning environment they provide for their students. Students, selected by their colleagues from within their tutor groups, participate in the teams that undertake these observations. To do this well means that all members of the team have to understand that this is not criticism for criticism's sake but a mechanism for self-improvement. In one piece of feedback, a class four student was able to tell his teacher that his writing on the board was making it hard for him to learn. He was able to say this respectfully and was cited by the teacher concerned with pride, as an example of the open relationships he had been able to create in his classroom.
- *Leading whole school assemblies* – Whole school assemblies are held daily in the primary school, and weekly in the secondary schools. Sections of the assembly are run by students so that they learn to speak in public with confidence in a supportive environment.
- *Participating in site briefings* – Every morning on each school site the staff and some student representatives, selected on a rotational basis for one week at a time, meet to discuss the running of the school for the day. The children are responsible for reporting on student welfare issues and contribute to other discussions about how the schools are run.
- *Sharing the in-class responsibility for upholding the agreed expectations* – Every student is expected to hold colleagues to account for upholding the agreed expectations, such as:
 - We will treat each other with respect.
 - We will be punctual.
 - We will protect each other's learning.

Students request each other to change behaviour if they see their colleagues failing to live up to the agreed standard.

- *Participate in the shared leadership teams in which all staff members take part* – In line with the EVC spirit, all members of staff are also members of leadership teams that govern aspects of the school, for example:

- Academic team.
- Human Resources team
- Finance team.

Student representatives selected by tutor groups, participate in fortnightly meetings. While acknowledging that confidentiality must be maintained on sensitive issues such as an individual's health, they provide feedback to the student body to enable them to discuss the relevant issues.

- *Taking responsibility for reporting breaches of the EducAid Staff Code of Conduct*¹⁶–

Bearing in mind the prevalence of sexual abuse in most other schools in the country, EducAid not only upholds a zero tolerance towards any sexual abuse within its schools but also engages all staff and students in living up to their responsibility to report on breaches of the staff code of conduct which focuses on child protection and safe-guarding. There is monthly discussion and review of the Staff Code of Conduct to ensure that every member of the community knows: (i) what behaviour is acceptable and safe and what is unacceptable and unsafe; (ii) how to report breaches and to whom; (iii) that the safety of the informant and potential victim are paramount and will be prioritised before the investigation proceeds.

In monthly leaders' meetings these strategies are discussed and reviewed to see how the organisation can continue to hold itself to account to achieve its aims. As the need arises, new ideas are piloted, approaches adjusted and practicalities modified. In line with one core value of pursuing excellence, through this process of continual improvement the organisation strives to provide better and more appropriate opportunities for the development of all its student beneficiaries.

EVC: A way of working that emphasises that 'Every Voice Counts'

EVC means 'Every Voice Counts' and includes a range of ways of working that engage EducAid students to be upstanders not bystanders when they see injustice. The peer-led families are a component of EVC where students participate in the decisions on how the school is run. Students learn not just to compete with each other but to collaborate and support each other, as well as to hold each other to account for completing chores and

¹⁶ The EducAid Staff Code of Conduct focuses on issues of child protection and safe-guarding.

paying their EducAid fees¹⁷. In class, EVC means that all students are responsible for upholding classroom norms and agreed expectations.

EVC systems also require student representatives to attend morning briefing with the staff. Equally, students participate in lesson observations and provide feedback to teachers. Staff and students are taught how to give useful feedback with two key rules: 1. Be specific and 2. Don't be mean.¹⁸

The schools are run with the cooperation and collaboration of the students, with students learning their responsibilities along with their rights. It is made clear that they have a right to have their voices heard but also a responsibility to do so, particularly to protect the rights of others or to speak up against an injustice or wrong behaviour. Nothing is just the responsibility of the teacher.

Communication strategies amongst the leaders

Across all sites, we aim to provide the same high quality of service with the same minimum standards, values and practices. In order to manage this, there are site coordinators as well as cross-cutting coordinators. Cross-cutting coordinators are responsible for an aspect of EducAid practice across all sites whereas the site coordinator acts as the head-teacher. To support coherence and consistency across sites, not only do all members of staff belong to a free group phonenumber that enables them to call each other without cost, but all the coordinators meet once a month to share good practice, discuss arising issues and formulate policy. The majority of these discussions have also usually been held on the various sites before the coordinators' meeting so that the coordinators' discussions can be EVC compliant and everyone does get the opportunity to participate in decisions around how EducAid is run.

Of these key areas of EducAid practice, which elements are transferable to other contexts?

Of these elements, those that seem most feasibly transferable to other school contexts are:

(i) Restorative Justice & Respectful Approaches; (ii) Gender equality programming; (iii) Leadership learning and (iv) Communication strategies amongst the leaders. It is

¹⁷ As noted in Chapter 1, the EducAid fees are excellent attendance, excellent behaviour and excellent effort.

¹⁸ This references a video clip that is now a key tool that EducAid uses to teach about how to give useful feedback (Expeditionary Learning, 2012).

acknowledged that not all of these will be able to be practised in exactly the same ways as they are in EducAid schools.

Restorative Justice & Respectful Approaches with a focus on (i) the abolition of any corporal punishment; (ii) the introduction of agreed expectations and (iii) deliberately respectful relationships are seen as a key element that must underpin any other school improvement programming. Gender Equality Programming too must feature even if the introduction of Women's Project classes and the construction of a Safe House are not feasible. Other pro-equality strategies are transferrable and are a key component of an appropriate curriculum (and hidden curriculum). Some of the leadership learning opportunities will be useful but those that link most obviously with EVC approaches are unlikely to be welcomed as they are challenging to implement until there is greater competence in using positive behaviour management strategies. It is better to achieve success with a small number of strategies than to overwhelm participants with too many elements and too many elements that are too foreign (Piper, 2019).

Vertical tutor groups and families, community service and EVC are expected to be too challenging to introduce, at least in the first instance. Vertical tutor groups require a major change in documentation and organisation for schools who are required by government to keep registers for horizontal groups. Obligatory community service could be introduced but as it requires organisation of elements beyond the school, this is regarded as an option rather than a key school improvement strategy. EVC strategies when first introduced in EducAid schools were found challenging and this was deemed a step too far for any initial school improvement programme.

f. Conclusions

The transferable elements supporting students' cognitive development are strengthening numeracy and literacy skills and independent and peer learning. Adapted techniques would be needed rather than wholesale transfer. New structures for promotion from one grade to another are not regarded as transferable.

With regards to elements supporting social development, respectful approaches, gender equality programming, leadership learning and improved communication between leaders are all regarded as transferable with some adaptations from EducAid's normal practice.

Vertical tutor groups, community service and EVC ways of working are not regarded as transferable. In short, there are ways of working within EducAid that can be used as the basis for the design of a school improvement programme for other schools.

Chapter 8 – Justification (3)

Intervention design (rationale & development); description of intervention; delivery planning

a. Introduction

This chapter focuses on addressing the third aim of the thesis: *To design a school improvement programme based on CPDL in the Sierra Leonean resource-constrained context.*

I will here discuss the design of a school improvement programme suitable for implementation in Sierra Leone. The design must reflect the objectives of the intervention which are (i) to support improved student literacy and numeracy; (ii) to strengthen intra-school and inter-school collaboration; (iii) to ensure in-school application of learning by teachers; (iv) to support strengthening of relationships between school community stakeholders and (v) to support the development of a values-led community.

To this end, the chapter outlines the rationale for the development of the specific CPDL intervention that is evaluated in this thesis. It also describes the development of the CPDL intervention and includes a detailed description of its components and features, with a section on delivery planning.

b. Theoretical and practical considerations for the design of the programme¹⁹

When under pressure teachers will adopt new ideas but are unlikely to maintain them if they don't find that they help them in their work. When accompanied by what Hargreaves (2001) characterises as a 'high energy input' approach, there may be temporary improvement. Sustainability is more likely with a low-profile approach accompanied by cooperation between trainers and participant teachers (D. H. Hargreaves, 2001; Mason, Galloway, & Joyce-Gibbons, 2018). This collaborative approach of trying ideas out,

¹⁹ As part of this research has been written up already, some of this section has been published in *Education & Child Psychology* in an article entitled: *Closing the attainment gap: Collaboration between schools in Sierra Leone* (Mason et al., 2018)

discussing challenges and solutions together also role-models the respectful ways of working with learners that the teachers are themselves being taught.

Lack of understanding about the impact of change on the social organisation of a school when teachers feel under threat or anticipate criticism may explain in part why so much CPDL fails to achieve sustainable change (Coe, 2013; Mason et al., 2018).

These concerns indicated the crucial nature of respectful, or ‘alongside’, supervision and follow-up (Mason, et al., 2018).

c. Priorities for the CPD

As explained in chapter 7, I identified key features of EducAid’s ways of working that made its schooling distinctive from more traditional schools in Sierra Leone and, of these features, the following were potentially transferable.

- Numeracy and Literacy as a foundation
- Pedagogy for independence, peer learning, higher-level thinking & mutual respect
- Gender equality programming
- Communication strategies amongst the leaders

The CPDL programme was designed to translate these EducAid principles into strategies that could be implemented in mainstream schools.

The table below shows an overall schema of the intervention, showing the participants in each component, the location and duration and the key content focus with interwoven values and values strategies. The detail of the programme is in Appendix 8.

Prioritisation of literacy and numeracy

As shown in table 8.1, the initial workshop included one week of training in literacy teaching and one week of training in numeracy teaching. Interwoven with these major concerns were strategies underpinning a more values-led and respectful approach to all aspects of running the classroom and classroom relationships.

Table 8.1 – CPDL Programme Overview

Programme Element	Duration	Focus Content	Key interwoven content	Participants	Location
Initial Engagement: May / June 2017					
Engagement meeting	½ day	Agreed expectations	This is a relationship not a one-off training	All stakeholders: community, teachers, heads, students	One Project Y school
Data collection	5 days	Literacy test, NPSE exam & attendance data, lesson observations	-	Teachers, heads, students	Project Y schools
2-week initial workshop	1 week	Literacy teaching	<ul style="list-style-type: none">• Alternative, respectful & positive behaviour management – end corporal punishment• Gender equality• Ambitious Standard Setting• Teaching for Independence• Peer learning• Higher-level thinking, including creativity• Ubuntu / Empathy / Kindness	All staff including head-teachers	One Project Y school
	1 week	Numeracy teaching			
Follow-up to implementation: September 2017 – June 2018					
Heads' meetings	1 day twice per term	Refresher on key teaching strategies, keeping records, sharing experiences & good practice	<ul style="list-style-type: none">• Leadership• Gender Equality• Growth Mindset• 'Nobody Left Behind' – Collaboration over Competition• Respectful relationships• Peer learning• Higher-level thinking, including creativity• Ubuntu / Empathy / Kindness• Positive behaviour management – end corporal punishment	All intervention school heads	EducAid
Heads' participation in free phonline	Once per week or fortnight	Refresher on implementation ideas, support to challenging elements.	<ul style="list-style-type: none">• Leadership• Gender Equality• Growth Mindset• 'Nobody Left Behind' – Collaboration over Competition• Respectful relationships• Peer learning• Higher-level thinking, including creativity• Ubuntu / Empathy / Kindness• positive behaviour management – end corporal punishment	All heads of Project Y schools	By phone

Table 8.1 continued - Programme Overview

Programme Element	Duration	Focus Content	Key interwoven content	Participants	Location
Involvement of the Ministry of Education	Calls & meetings as opportunity arose	Understanding the programme & its aims to improve the schools	<ul style="list-style-type: none"> • Collaboration 	Representatives of the Ministry of Education in the district	District headquarter & Project Y schools when possible
Support visits	Once per term	Refresher on key teaching strategies, literacy and numeracy as a foundation for other independent learning, reinforcing messages gained by heads at heads' meeting	<ul style="list-style-type: none"> • Encouraging improved intra & inter-school collaboration • Gender Equality • Growth Mindset • 'Nobody Left Behind' – Collaboration over Competition • Respectful relationships • Peer learning • Higher-level thinking, including creativity • Ubuntu / Empathy / Kindness • Positive behaviour management – end corporal punishment 	All staff of Project Y schools	Project Y schools
Community Teachers Association (CTA) workshop	½ day	Roles and responsibilities of CTA members	<ul style="list-style-type: none"> • Respectful relationships • Collaboration • Gender equality • Positive behaviour management – end corporal punishment 	Heads and CTA chairs and other CTA members	One Project Y school
Reading Circle	Once or Twice per week	Reading materials and dictionaries	<ul style="list-style-type: none"> • Support teacher literacy • Support literacy activities with students • Challenging gender stereotypes • Ubuntu / Empathy / Kindness 	All Project Y staff	In each Project Y school
Evaluation Workshop	Once, at end of intervention	Review the experience and impact of various components of the intervention	<ul style="list-style-type: none"> • Leadership • Gender Equality • Growth Mindset • 'Nobody Left Behind' – Collaboration over Competition • Respectful relationships • Peer learning • Higher-level thinking, including creativity • Ubuntu / Empathy / Kindness • Positive behaviour management – end corporal punishment 	All staff of Project Y schools	In one Project Y school
Data collection	5 days	Literacy test, NPSE exam & attendance data, lesson observations, interviews and focus group discussions	<ul style="list-style-type: none"> • Respectful / alongside not 'top-down' collaboration 	Teachers, heads, students, parents	Project Y schools

The poor literacy and numeracy skills of primary school leavers in Sierra Leone (among many other low-income countries) are widely reported, resulting in them being ill equipped for living in today's world. Barrett (2009) notes the increased numbers accessing primary education since the big Education For All drive (UNESCO, 2000) but also the work required to address the discrepancy between the increased numbers attending school and the numbers leaving school with appropriate literacy and numeracy levels.

Learning from evidence in a systematic review by Torgerson et al (2006), and from over five years of experience implementing training programmes in literacy teaching in Sierra Leone, a systematic phonics approach was used as the foundation. From preliminary observations and previous experience working with the teacher training colleges, the intervention team were aware that most teachers had not been taught to teach children to read and write with any clear strategy. Equally, from the experience of working with teachers of classes 4, 5 and 6, the intervention team had found that they had not been trained to teach word attack skills.

Few students master maths and few teachers are really competent to teach it (Bold et al., 2017). Maths scores in the public exams are dismal and appear to be getting worse. For example, there was a drop in the number of candidates passing the maths exam at WASSCE from 5.2 to 3.2% over the period from 2007-10 (MEST, 2013).

Bold et al (2017) report findings that among 27,000 teachers across seven countries in Africa, one in five grade 4 primary school teachers did not master the grade one curriculum and one in three did not master the grade four curriculum. Only very few could tackle tasks on the upper primary curriculum. Recent UNICEF findings in Sierra Leone that 97.4% of Class 2 children and 86.5% of Class 4 children are unable to recognise all letter sounds indicate Sierra Leone's education system is in the same state (MEST & UNICEF, 2018).

Throughout the numeracy week, the emphasis was on supporting the teachers' own competence in maths and pointing out to them the active methods they were using to learn and thus giving them techniques to take the concepts back to the classroom. It was clear that much more work would be necessary to ensure that all teachers could master the curriculum for the children at the grade they were teaching at, but it would be essential not to try to cover too much in one session.

Pedagogy and mutual respect

EducAid pedagogy deliberately focuses on supporting teachers and schools to build towards its vision and uphold its values, as described in Chapter 7. This has arisen out of the experience gained through 20 years of work in Sierra Leone, from the relevant education and development literature and from Sierra Leone specific documents such as the report of the Truth & Reconciliation Commission (TRC, 2004a). EducAid's pedagogy and its principle of mutual respect are so interwoven as to be inseparable.

Specifically important for pedagogy, in the programme design were:

- Higher-level thinking

The Akyeampong et al (2011) study on teacher preparation and continuing professional development in Africa, with conclusions based on work in six African countries, contains obvious parallels with Sierra Leone. They concluded that initial teacher training programmes are not designed to help teachers critically reflect on whether students have engaged thoughtfully with learning material; consequently, they do not facilitate the children's own critical thinking. In general, a successful lesson was judged as such when all the steps had been completed, whether or not critical engagement had occurred. In the specific context of post conflict Sierra Leone, there were recommendations that children and youth be taught to think critically and that there be significant curriculum reform to address situations that had pre-disposed the country to war (TRC, 2004a). UNICEF (2012) recommended that post reform, the curriculum would *'develop critical thinking and problem-solving skills to encourage children and young people to exercise reason, come to autonomous judgements and guard against manipulation or indoctrination'* (UNICEF Sierra Leone, 2012 p25). Similarly, UNESCO (2008) emphasised that all their recommendations were made with the intention of strengthening democracy.

With this in mind, EducAid engages to educate its children differently and therefore endeavoured, within the CPDL programme, to engage teachers in learning how to create higher-level thinking opportunities for their learners. The teachers were also taught, using Bloom's taxonomy to create opportunities for their students to engage in other higher-level thinking, with a particular focus on analysis, application and creativity.

- Mutual respect and other citizenship values:

In their Situation Analysis Peace and Education Report, UNICEF (2012) noted that ‘Despite new laws and on-going development programmes, many schools still practice corporal punishment’ (p. 19).

It was decided that the intervention needed to role model mutually agreed expectations. The aim would be twofold:

- a. That the teachers would come to understand how they could use the same techniques with their own students to encourage them to take responsibility for their own behaviour and for each other, thus establishing a positive learning environment.
- b. That the teachers would see that mutual respect works as a way of engaging everybody in creating the desired learning environment.

The purpose was to support the teachers in developing strategies that focus on the positive target behaviours. The team worked from the basis that children are reasonable beings and could be helped to self-monitor and police their own behaviour among themselves. They would also respond to the rewarding of positive behaviours. This is what EducAid refers to as positive behaviour management. The focus is constantly on appreciating, role-modelling and valuing the positive and desired behaviours rather than focusing on the negative behaviours. It may be human nature to focus on problems rather than the goal but in this case it can result in a damaging emphasis on sanction and punishment which undermines a conducive atmosphere for the enjoyment of learning and quickly leads to an authoritarian approach to education. Such an approach can have a devastating impact on society, and in Sierra Leone’s case is reported to have been a contributing factor in the 11-year war (TRC, 2004b).

Respect and equality also needed to be reflected in the activities and instructions used for learning. The teachers would be encouraged to make sure that if using a book from another context, they should change the names to local, relevant and recognisable ones in their examples.

Ubuntu (see page 19) is a key concept that is fostered among the EducAid school children. In planning the CPDL, it was intended that participants be taught how to encourage the

values of sharing, kindness, community and love among their students. There would be opportunities to discuss a seven-step process for a school to 'qualify' as an 'Ubuntu' school and the activities must be sustained for at least one term in order for the school to receive an Ubuntu certificate²⁰.

In a more affluent context, micro-teaching exercises with video recordings would be a fairly standard technique to use for training teachers. In Sierra Leone, these are seldom available. In the participant schools there was no power or equipment for video recording or playing. However, the key principles of micro-teaching were used i.e. teaching a reduced number of pupils for a short period of time and then discussing the teaching with other trainee teachers (Allen, Eve, Taylor, & Allen, 1968). A key component for each aspect of the programme was for teachers to practise teaching each other using the new techniques, learning from Eames and Coll (2010) among others, the importance of practising new techniques as well as combining classroom learning with work place practice. Opportunities were created for teachers to teach each other and implement their new methodologies. The findings in the Sababu project review were taken as typical of most training programmes in Sierra Leone, in that there is usually insufficient opportunity for practising new techniques (Ngegba, Mansaray, & Thulla, 2016). A large DFID funded project to train all teachers in the country to teach Maths and English had been undertaken by all the teachers EducAid was due to engage within the participant schools two months before the baseline data collection exercise (DfID, 2017). It was therefore anticipated that there would be a significant difference between the way the Project Y²¹ teachers taught and the way other teachers who had previously been observed in other parts of the country had been observed teaching. However, the EducAid data collectors observed no difference whatsoever. So far unpublished reports indicate that in the DFID project, the lack of practice of new techniques was crucial in the failure to achieve change.

Gender Equality Programming

The challenges with regards to gender inequality remain enormous and a significant challenge is the lack of educated female role models in Sierra Leone. Only 25% of all teachers in Sierra Leone are women (MEST, 2016). Sierra Leone's ranking on the Social

²⁰ An Ubuntu certificate is an internally awarded certificate from EducAid, issued to foster good citizenship values of community, kindness and sharing. See appendix 8 for the Ubuntu certificate requirements.

²¹ Project Y is the pseudonym for the town in which the intervention took place.

Institution & Gender Index (OECD, 2017) as ‘very high’ indicates the disparity between the sexes across the board and not least in education. Equality is not only an EducAid value, but also a societal priority.

Learning from EducAid’s Girl Power Group (for girls) and White Ribbon Campaign (for boys) clubs that all EducAid students belong to, the intervention engaged to support the establishment of similar groups in participating schools. In addition, permeating all literacy and numeracy training workshops were activities that (i) engaged the participating teachers in challenging their own gender stereotyped attitudes; (ii) provided them with new techniques for engaging girls in taking up greater responsibility in schools; and (iii.) proposed ways of involving the boys, communities and other stakeholders in achieving greater equality in schools and classrooms.

Communication strategies amongst the leaders

As with EducAid teachers, it was decided to (i) gather the school leaders together regularly to share good practice, ways to overcome implementation challenges and to build a support network and (ii) give all the school leaders a free membership of the free phoneline (closed user group - CUG). Participation in the CUG would also give the participants free calls to anybody in the EducAid team. It was decided to include some of the key Ministry officials too.

d. Rationale: Core requirements in constructing this CPDL programme

In response to the request for a school-improvement programme aligned with and learning from the transferrable elements and values of EducAid’s practice a CPDL intervention was developed and delivered within the context of a quasi-experimental study (QED) with impact and process evaluations, so that a. some evidence of the impact of the CPDL could be ascribed to the intervention and b. some explanation of the critical features could be explored.

Drawing on the literature as well as on experience in Sierra Leone core parts of the programme included:

- Whole school approach
- Support to the school leadership
- Relationships with the Community and Authorities

- Support to the School Management Committees
- Follow-up support to implementation
- Timing of the intervention

Each of these is explained more fully in turn.

Development of the CPD: Whole school approach

Stoll et al, (2006, p. 221-222) argue strongly that '*learning can no longer be left to individuals*'. While some programmes focus on individual teachers, the literature and earlier experience in providing short courses suggested that the intervention needed to include support for the community, the whole school, the school-leader, and the individual teacher. In other words, the programme needed to have a whole school approach. This was because a key part of the principle under investigation in this thesis is the replicability and generalisability of the intervention for other contexts in Sierra Leone and indeed other Anglophone low-income countries. Therefore, a process to establish agreed understanding of the responsibilities of all stake holders was undertaken. This was important for two reasons:

- We hoped to be able to hold each group accountable for their part in the improvement project as the intervention progressed; and
- We could model this way of managing the behaviour of all parties as this was a key component of how we teach teachers to manage the behaviour of their students too.

Development of the CPD: Support to the school leadership

A key component of the CPDL design was supporting the school leadership. The literature review (Chapter 2) revealed that a failure to get significant commitment and buy-in from the school leadership would result in, at the very best, limited uptake and at worst no uptake of any new teaching strategies or behaviours (Cordingley, 2015a; Robinson, Hohepa, & Lloyd, 2009b). The inclusion of the school heads in all aspects of the intervention, as well as having their own leadership meetings and intervention components, was therefore a crucial part of the overall design.

Development of the intervention: Relationships with the Community and Authorities

In line with the above observations, it was deemed essential to ensure that the local Ministry of Education representatives were aware, in support of and if possible, involved in the intervention. Anything that removes teachers or head-teachers from their schools must have the approval of the authorities. In addition, the involvement of school supervisors and inspectors in training sessions would help their understanding of the intervention and enables them to promote ideas from the programme in other schools.

Development of the intervention: School management committees

All Sierra Leonean primary schools have a school management committee (SMC). The SMC comprises of parents and community elders and has a responsibility to ensure that the school is serving its purpose in the community. Therefore, EducAid also ran a workshop with the School Management Committee (SMC). Schools across Sierra Leone tend to only involve the SMC in how to share monies, resources or opportunities that come to the school but not in the day to day running of the institution. An SMC handbook exists but most SMCs have never seen it and even if they have, most members are illiterate and cannot access the content. The New Education Policy maintains that 69.3 % of the male population and 80.0 % of the female population are illiterate, (Government of Sierra Leone: Ministry of Basic and Secondary Education, 2018). This means that schools are regarded with some awe and very little confidence by much of the illiterate parent body. Finding a means by which the SMC might: (a) feel respected because the information they needed was in a format they could access and therefore (b) understand their role was important. The tools devised are detailed below.

Development of the CPD: Follow-up support to implementation

It is easier but insufficient to limit one's attention to the more controllable task of delivering a piece of CPDL, however excellent, without taking responsibility for in-school follow up (Cordingley, 2015a). Follow up support for implementation is vital. The day to day tasks of running a Sierra Leonean school with only half of the teachers on salary, endless and unexpected demands by the Ministry of Education and a lack of resources mean that all momentum and focus are likely to be lost without considerable effort to keep everyone engaged.

The follow up support needed to focus on what was working and why, and what and why certain elements were not working so that ideas could be shared for overcoming the challenges rather than excuses found for giving up. For example, it takes time to learn to use alternative methods for behaviour management such as agreed expectations for behaviour where the children must hold each other to account rather than wait for teacher discipline. While the children learn to manage their new-found responsibilities and the teacher how to manage the process, there may be pressure from parents and community members alike to return to use of the cane.

Cordingley (2015) continued '*Most CPDL providers find connecting programme / course activities and in-school follow up challenging and so limit their responsibilities to what they can control. High quality CPDL depends on aligning both*' (Cordingley, 2015a p3). Learning from this and our own experience, EducAid was clear that the intervention structure must include strong, in-school follow up support during the implementation phase.

Development of the CPD: Intervention Timing

It is difficult to persuade teachers in Sierra Leone to sacrifice holiday time to undertake CPD; as school holidays are times when many find alternate ways to supplement low salaries. Therefore, I decided that it would be better to hold the CPDL during school time. However, in order to reduce the impact on the children's learning, the normal classes were run in the morning and the 11am lunch break was postponed until 12pm, at which point the children were sent home for the day. Experience has taught that there is almost never an 'ideal' time for such sessions so it was decided to proceed despite the potential for distraction by the Ramadan activities.

Criteria for accepting a school into the programme

For schools to be accepted onto the programme it was crucial that the request to participate came from the school (and preferably directly from the head) and also that the whole staff including the head would actively participate in the whole programme (Mason et al., 2018).

e. Delivery of the CPD

Description of intervention

In summary, the intervention comprised 2 weeks of introductory CPDL sessions from 12.30 – 5.00 pm daily from Monday to Friday, with a break for Muslim prayers at 1.30. There was additional follow up support for one year with specific elements focusing on support to community relationships, school leadership and links with the Ministry of Education.

Table 8.1 above shows the structure of the intervention and the focus of each component.

Community meeting to establish agreed expectations

The EducAid team consisted of ten EducAid staff, (five had experience of delivering the pilot version of the CPDL and in data collection and five had been more recently trained in data collection). Before the intervention, a community meeting was convened with the entire staff of all five schools, community stakeholders, parents' associations, and two student representatives from each school. During the meeting, the project was explained and then agreed expectations were established for each group.

Each group detailed what the others could expect from them. Firstly, the team asked the community and staff what they expected from the team themselves.

They listed the following expectations:

Expectations from EducAid

- 1 Certificate (n.b. we agreed that this would be awarded for those with above 90% participation and implementation)
- 2 Learning materials / teaching aids
- 3 Quality education / training
- 4 Punctuality
- 5 New methods of teaching

Next, the team asked the teachers what it was reasonable for EducAid and the community to expect of them. They listed the following expectations:

Expectations from the teachers

- 1 Willingness to learn and good participation
- 2 Punctuality
- 3 100% attendance
- 4 Implementation

The community was asked what it was reasonable for EducAid and the teachers to expect of them. They listed the following expectations:

Expectations from the community

- 1 Monitoring and visiting the schools
- 2 Understanding the project
- 3 Making sure the children are in school

And lastly, the student representatives were asked what it was reasonable for EducAid, the teachers and the community to expect of them and their colleagues. They listed the following expectations:

Expectations from the students

- 1 Coming to school to learn every day
- 2 Studying at home
- 3 Avoiding violence
- 4 Cooperating with teachers

The detailed content of the initial two-week workshop is to be found in Appendix 8.

f. Planning for implementation

Return of teachers to their schools to implement what they had learned during the CPDL sessions.

At the end of the CPDL sessions, the team led a discussion about what the teachers had learned and reminded them about what they had agreed to in the first community meeting.

Having learned the techniques, the teachers were strongly encouraged on return to their schools to:

- Make sure the learning process was enjoyable, using games as a key motivational tool (Garris, Ahlers, & Driskell, 2002).
- Praise the children and acknowledge their progress and celebrate it at every stage (Blackburn, 2015). The CPDL team emphasised that children are motivated by praise for their successes and, more importantly, for their efforts, but also enjoy seeing the relevance of the learning and how useful it is (Blackburn, 2015).
- Use techniques that they had themselves enjoyed during the CPDL sessions.
- Prioritise respectful relationships and use 'agreed expectations' written up on posters and kept on the walls of each classroom and as a reference for discussion by the class as a key to managing behaviour in positive ways.
- Support each other in improving their teaching techniques. There was an introduction to the idea of intra-school collaboration and seeing each other as a team. This involved helping each other and recognising that they would succeed or fail together.

Head-teachers' initial professional learning session

During the same period, short separate sessions were held with the head-teachers on three occasions after the whole staff sessions. Apart from the pre-CPDL phone calls to set up the data collection and the CPDL sessions, this was the first time that the EducAid team and the head-teachers had worked together. It was an important step in establishing the head-teachers as the school-based project coordinators.

- They were taught to use the EducAid lesson observation forms, with discussions about the importance of the head-teachers actually undertaking formal lesson observations with their staff. Formal training including standardisation sessions were held later during the follow up meetings in the implementation phase.
- Further discussions were held with the head-teachers about the importance during the implementation phase of maintaining momentum through regular phone calls with each other and with the EducAid team. The generic agenda was shared with the head-teachers and discussed. (See below in the following chapter for details of the structure of the phone call meetings.)

- Similarly, the head-teachers were introduced to the ideas around the importance of and the simple way of running Reading Circle meetings. (See below in this chapter for details.)

Implementation phase

Follow-up support to implementation

EducAid structured its implementation phase follow up support in the form of:

- Support to intra-school collaboration
- Establishing reading circles
- Specific support to the head-teachers
- Head-teachers' phone network
- Support to inter-school collaboration
- Support to relationships with the community and Ministry of Education

Support to intra-school collaboration

During the work with the head-teachers and on the school visits and post lesson observation meetings, the team strongly encouraged the teachers to support each other. Specific activities that were encouraged were:

- Holding a weekly staff meeting
- Lesson planning together and the sharing of good ideas
- Observing each other's lessons
- Conference exam marking

Any activity that would support the collaboration of teachers and create spaces to learn from each other was encouraged and praised. In the same spirit, the head-teachers were asked to start reading circles to support the development of staff literacy.

Establishing reading circles

Anecdotal evidence and experience gained during the pilot phase of the CPDL design, helped EducAid understand the challenges arising from the teachers' own literacy levels. Most teachers are working in their third language when using English in Sierra Leone. Most will grow up speaking one of the 17 different tribal languages, learn Krio when they need a

language that is used across tribal groups and only start learning English when they go to school. It is not uncommon to find inaccurate English spellings or grammatical structures on blackboards during school visits and lesson observations. Accessing reading materials is difficult and expensive and Sierra Leone does not generally have a reading culture (Fomolou, 2019). Most teachers lack the opportunity to develop their reading and feel threatened at the prospect of reading.

At the end of the CPDL sessions, EducAid provided reading material – a series of short stories – and a pocket dictionary to each participating teacher.

Head-teachers were asked to start ‘reading circle’ meetings with all staff twice a week at a suitable time. The idea was simple: meet and read one or two of the short stories, teachers reading by turn one paragraph each. After reading, the group would note new words, look them up in the dictionary and discuss them. They would then discuss the meaning of the story and what they found interesting or enjoyable in it.

Support to the head-teachers

Lesson observations and feedback (Head-teachers and EducAid)

Once a term, the EducAid team would undertake further lesson observations²² and, in addition, the head-teachers were also trained to undertake lesson observations in the same manner themselves. As with all of the support to the head-teachers, the point was made that this would enable them to manage the school improvement project but also to acquire strategies to manage the performance of their teachers more effectively beyond the life of the project.

Head-teachers’ phone network

After the CPDL sessions, the head-teachers were joined to a free phone network. This enabled them to call each other and any member of the EducAid team for free at any time. It also facilitated a weekly structured follow up phone meeting between a member of the EducAid team and each head-teacher. This recognised two key concerns:

- The crucial role of the head-teacher in any school improvement

²² The first lesson observations were undertaken as part of the baseline data collection before the intervention.

- The need for collaboration between the head-teachers because of the great benefits of inter-school collaboration

The phone call would have a specific structure and focus on successes and challenges in implementation, and how problems might be resolved, either with support from the EducAid team or by other heads or colleagues. Call records would be kept so while they were part of the intervention, they would also provide important process data for the evaluation (see below for details).

Participation in the heads' meeting at EducAid

At the end of the first term of implementation, the head-teachers came to visit two of the EducAid schools and started to join a larger network of head-teachers that met twice per term. The purpose of the meetings was to build a learning community where good practice and challenges were shared and to continue further input that could be taken back to the schools, based on concerns raised through the visits. This therefore introduced a reflective component to the programme. The lesson and school observations could inform the content of the heads' meetings. The heads' meetings were largely run as carousel learning sessions with some plenary discussions. The carousel lessons were to role-model a more engaging way of presenting material and ensuring the whole group were actively involved in the learning. This gave the opportunity to reiterate aspects of learning that had not been implemented well, create fora for discussion about challenges and successes and to introduce new material. There was constant reinforcement of concerns around the practical implication of girl-friendly schooling, teaching for independence (not just rote-learning and copying), respectful leadership, teaching for kindness, empathy and ubuntu and data management and record-keeping.

Two elements that were introduced during this period in response to issues that were observed were growth mindset approaches and 'nobody left behind' approaches.

Growth Mindset approaches derive from work by Dweck, (2006) about the importance of effort, learning from feedback and challenging oneself over innate talent. For EducAid, this means talking to students in different ways that (i) help them know that with effort they can 'grow their brains' and develop their competence, (ii) encourage them to use mistakes as learning points, (iii) support ways of working that gives up on nobody.

Closely related to this is the ‘nobody left behind’ set of ideas that firstly encourages teachers to never give up on a child and also encourages the children to enjoy collaboration more than competition, to value achieving all together over ‘smashing the competition’.

Both concepts were introduced with practical examples, discussions of how it might work in different schools and what the challenges would be; how it might clash with traditional teacher and student behaviours and more. In reality, while both sets of ideas were enjoyed and discussed enthusiastically, the heads failed to take them back to their schools even with follow-up support by the team when visiting. They were too complex to be implemented without much greater support to understanding the underlying principles and the little ways that teacher talk needed to change.

Collaboration for improvement

Schools traditionally compete against each other and conversations with teachers and head-teachers revealed that competitions were the most common form of contact between Sierra Leonean schools. In line with learning about inter-school collaboration (Fullan and Hargreaves, 2012,) the head-teachers were strongly encouraged to establish a two-weekly conference call among themselves for the purpose of sharing ideas and comparisons on implementing aspects of the CPDL sessions.

Within EducAid’s own network of schools, teachers and head teachers are in constant contact. Key features of their inter-school collaboration are:

- having senior staff with cross site roles
- representatives from each site meet monthly
- there are whole programme common policies, learning materials, training programmes and ways of working
- each year, the entire staff spend a week recommitting themselves to common policies and practice

This level of inter-school collaboration was not possible for the Project Y schools as each had its own supporting agency, with different levels of involvement in day to day activities. However, follow-up support to the CPDL sessions aimed to foster a spirit of common purpose and support amongst the head-teachers.

Interviews with Head-teachers

Semi-structured interviews and focus group discussions were undertaken with the head-teachers in the early stages of the implementation phase and then towards the one-year point. While this would provide key information to inform the on-going follow up support and the content of any more formalised sessions, it was also a key component of the process data (see below in the Evaluations Methods: chapter 9).

These interviews and discussion groups were designed to engage the head-teachers in the reality of their own crucial role and to ensure buy-in for the project. Without head of school ownership of the project, it was not anticipated that any sustainable impact could be achieved. The evidence from TALIS is clear i.e. that 'educational leadership is clearly related to the development of professional learning communities in schools' (OECD, 2016, p. 4) and with the aim of establishing a professional learning community in each school and indeed across the schools, it was clear that the level of engagement of each head would be a strong determinant of uptake of ideas and implementation of what they had been taught (Branch, Hanushek, & Rivkin, 2013).







































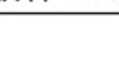
Support to relationships with the community and Ministry of Education

The Deputy Director was included in the Closed User Group to make communications easier between the Ministry and the Project Y school heads, and the inspectors and supervisors were invited whenever possible to join the EducAid team when they were visiting the schools and to participate in training particularly focusing on lesson observations.

The relationship between schools, communities and parents was highly dysfunctional. A two-hour training was provided for SMC chairmen, focusing on the SMC's rights and responsibilities, using the icon checklist shown in figure 8.1 and on twenty mini scenarios which provided opportunities for contextualising the theory of their roles.

Adult literacy in Sierra Leone is 34% (UNDP, 2018) so written material disenfranchises many. An icon-based checklist requiring no literacy provided an empowering means to understand their role (Figure 8.1). Discussions of scenarios in which the SMC would be expected to engage brought the checklist to life further.

Figure 8.1 Icon checklist designed for the use of the SMC many of whom are often illiterate

Aspect of school life		SMC / CTA checklist	
		😊 ✓	😞 ✗
School buildings & classrooms			
Water			
Furniture			
Money			
Food supply			
Teachers			
Students			
Time			
Books			
Register			
Equality			
Meeting			
Safety			

The follow-up maintenance and support programme overlaps with the collection of process data for the evaluation. Design and construction of instruments are described in the next chapters.

Section 4

Design and Methods



Chapter 9 – Design & Methods (1)

Design of the Evaluation of the School Improvement Programme

a. Introduction

In three chapters, section four presents issues relating to the design of the research. Chapter 10 discusses issues arising from the pilot programme. Chapter 11 discusses ethical considerations for the design and delivery of the programme. This chapter explains the design of the programme evaluation and the methods adopted for data collection and analysis. Issues relating to the implementation of the evaluation are discussed in the relevant results chapters.

b. Overview of the evaluation design

Aim of the evaluation

Both the design of the programme and the evaluation were informed by aims 4, 5 and 6 of this study, namely:

- 4 To obtain and assess evidence showing whether students' performance had improved by the end of the school improvement CPDL programme and at follow-up.
- 5 To identify problems and possibilities associated with well-motivated but largely untrained teachers delivering school improvement programmes, and collecting data for an evaluation, with only arms-length supervision from the Country Director. &
- 6 To throw light on aspects of the programme that the teachers, pupils and other stakeholders experienced as strengths and weaknesses of the programme.

Design of the Evaluation

A quasi-experimental design was the most suitable structure for an evaluation in the circumstances. The impact evaluation required data to be collected before and after the intervention in both the schools receiving the intervention and the comparison schools. Process evaluation data were collected throughout the period and at the end of the intervention.

The design required three crucial features:

- 1 Baseline data to be collected before the CPDL started (Time 1) and end-line data to be collected on completion of the programme at the 12-month point (Time 2). These data consisted largely of literacy assessments, attendance and lesson observations.
- 2 A comparison group of schools with similar student intakes and teachers who were not taking part in the CPDL, would have the same data collection.
- 3 The distinction between impact data and process data was explicit: Impact data were provided by the assessments at baseline (Time 1) and at 12 months (Time 2). With these data, it was possible to compare the performance of students at participating schools with the performance of pupils at non-participating schools.

Process data were collected during the follow-up component of the intervention. These data consisted of classroom visits looking for evidence of implementation, interviews with teachers and head teachers, focus groups with head teachers, teachers, students in Project Y schools and members of the School Management Committees (SMC,).

The underlying rationale for this approach was that despite enormous sums spent worldwide each year on CPDL for teachers, very few studies have found evidence of sustained improvement in students' performance (Coe, 2013). In low-income countries, the problem is aggravated when educational aid agencies are more concerned with their own philosophical or ideological agendas than in finding a common approach that teachers can use to raise standards (Galloway, 2006). It is further aggravated when aid agencies – or their donors – decide to focus on materials, for example provision of textbooks (Sabarwal, Evans, & Marshak, 2014), or important but relatively small topics such as lesson plans rather than on a broader “whole school” approach that integrates cognitive and social learning (Zhao, 2016).

While education is a stated government priority in Sierra Leone for each new regime as it comes into power, education improvement activities have largely focused on reconstruction and rehabilitation of school infrastructure, particularly in the SABABU project, the significant post war programme for rehabilitation of basic education. Only 13.4% of the overall project costs were spent on any form of teacher training. Of the small teacher training component the majority of the project went on peace education and HIV/AIDS prevention rather than on the foundational skills of literacy and numeracy (Bu-Buakei Jabbi, 2007). Further,

education INGOs have undertaken teacher training programmes but these have tended to have a continuing emphasis on HIV/AIDS awareness and peace education (Ministry of Education, Science & Technology, 2007). The post Ebola Presidential Recovery Programme undertook a national teacher training programme in English Language and Mathematics but the initial reviews, as yet unpublished, indicate that the brevity of the training has raised doubts about the possibility of sustained or meaningful impact (Government of Sierra Leone, 2015).

Impact Evaluation & Process Evaluation

The evaluation structure was characterised as having mixed outcomes because both quantified and qualitative data have been collected. Quantified data were collected to assess whether meaningful impact could be associated with the CPDL programme: the impact evaluation. Qualitative data were collected in order to explain why and how certain changes had, and other changes had not, taken place: the process evaluation.

The study followed a quasi-experimental design with an intervention group and a comparison group but the groups were not randomly selected. In a quasi-experiment limited causal claims can be made about the effectiveness of the intervention by comparing the outcomes from the intervention group with the outcomes from the control group.

Causality

Any causal claim can only be limited because in a quasi-experiment, even with careful matching, baseline equivalence cannot be assumed and therefore other factors could potentially explain any differences observed at post-test.

A quasi-experiment is like a randomised controlled trial but without the crucial randomisation. A quasi-experiment can contribute to knowledge by providing limited causal evidence of impact. In this instance, the lack of randomisation is compounded by the small sample size and the sample was not randomly selected, so the argument in this study is not for generalisability to other contexts. The argument is that indications of possible impact would suggest value in conducting a larger scale experiment.

Tashakkori and Cresswell (2005) further outline four attributes of a strong mixed methods study as:

1. *'demonstrate the need for mixed methods to answer research questions that include clearly interconnected qualitative and quantitative components,*

2. *present distinctly identifiable qualitative and quantitative data (or one transformed to the other) that are analysed and presented separately,*
3. *make identifiable inferences or conclusions on the basis of the results of appropriate qualitative and quantitative data analyses, and*
4. *clearly integrate the results of the two or more (qualitative and quantitative) strands of the study into coherent conclusions or inferences that are more comprehensive and meaningful than those of the qualitative or quantitative strands alone.'* (p207)

Tashakkori and Cresswell (2005) provide a model for this study and enable us to show clearly how the study aligns with a mixed methods approach. Firstly, there is a need for a mixed-methods approach in this study because the quantified and qualitative components are *completely interlinked*. Understanding if there has been an impact or not is important, but insufficient. To understand which aspects of the CPDL participants think have had an impact and how they brought about change, according to the participants themselves provides further contextual information.

Research aim 4 required a design which can provide data on teacher behaviour before (Time 1) and after (Time 2) the intervention, in the intervention and control groups to facilitate comparison, and at follow-up (Time 3) in the intervention group. These data were obtained by observing lessons and recording observations against particular criteria. This aim also required a measure of students' performance before and after the intervention in intervention and control schools in order for comparisons to be drawn. These data were obtained from a literacy test which measured students' progress through the stages of literacy acquisition.

Research aims 5 & 6 required information that can illuminate how participants felt about, responded to, and were able to implement the different features of the CPDL. These data were obtained through semi-structured interviews and focus group discussions (see below for details). The two sets of data make it possible to respond to gaps in the literature about effective CPDL in Sierra Leone, in low-income countries and further afield.

In relation to Tashakkori & John W. Creswell's (2005) second point, in this study, there were clearly *distinct* sets of quantified and qualitative data performing different roles and providing answers to different questions and these were collected, presented and analysed separately. There were quantified outcome data collected at pre and post intervention points answering the question of impact or lack of impact of the CPDL programme. There

were qualitative process data, collected throughout the implementation, that helped answer the question as to why, how and which components did or did not have had an impact.

In relation to the third attribute, in this study, it could be seen that there are *identifiable inferences* arising from these different data sets. The inference emerging from the impact data would be that there was or was not evidence that the CPDL had had an impact on teacher behaviour and student performance. The inference from the process data would be that element X or Y of the CPDL had been more or less easy to implement or respond to; that a particular element needed strengthening; that a particular element had no impact and so on. These inferences are identifiable and different and emerge separately from the different data sets.

In relation to the fourth attribute, in this study, it can be seen that the quantified and qualitative data do indeed complement and enrich each other.

If only the literacy test and lesson observation had been collected, there might have been evidence suggesting impact in those five schools which had participated in the CPDL. There would have been no means of understanding which components of the CPDL might have contributed to success elsewhere. Any aspect or aspects of the CPDL might have been responsible for the change: be it the intensive preliminary training, the follow up support to the head-teachers, the provision of teaching aids, the support to the teachers' own literacy through the reading circles or any other aspect. Without the information gathered through the qualitative data sources, there would have been no way of understanding how this CPDL might best be rolled out or if, on the other hand, there would be no way of rolling it out because the contextual particularities were what had ensured success or failure.

The quantified data collected were very important and do provide a basis for an understanding of change or no change associated with CPDL. For a more complete understanding of the subtleties of which component was most significant in supporting change and how different participants had experienced and responded to different components, a process evaluation using qualitative data collection methods was absolutely necessary. It is this that provided the basis for an analysis of the teachers' experiences of the various aspects of the project and how the different elements contributed to the outcomes. Showing that CPDL has some impact in one context, could potentially affect the 1800+ children who attend the Project Y schools. If the methodology could be applied in

other related, but not identical, contexts, for example the 1.2 million primary school children in Sierra Leone, the research might indicate the possibility of wider significance with further research and larger sample sizes. Or, the process data might suggest ways for further testing of adapted versions of the QEP intervention elsewhere.

The literacy test and the lesson observations provided a means of measuring if change had occurred. In a context where there are numerous NGO activities purporting to support change and millions of pounds being spent on the endeavour but little robust data collected as to the impact, it is important, if there is a case to be made that a given intervention is different from the general provision in this field, that there are robust data with which to make it. As already argued, the evidence suggests strongly that most CPDL programmes fail to have significant impact on school effectiveness worldwide (Coe, 2013). Riddel and Niño-Zarazúa, (2016) also indicate the lack of efficacy of aid to education including teacher training in many other low-income country contexts and the Country Status Report for Sierra Leone (MEST, 2013) confirms the same struggle in Sierra Leone. The evidence strongly suggests that effective CPDL is still largely evading the education community in general, hence the need to identify, analyse and publicise effective interventions where they exist.

c. Evaluation Methods

This study uses a quasi- experimental design and can best be aligned with what Cohen, Manion, & Morrison, (2011. Kindle Location 14324) describe as '*a quasi-experimental design: the pre-test-post-test non-equivalent group design*'. In this design, as the names suggest, there is a pre-intervention test and a post-intervention test administered to an experimental group and to a control group and a comparison undertaken between the two results. This study is characterised as having non-equivalent groups because they were not randomly selected.

Outcome data were collected through a pre-intervention baseline study (Time 1), post-intervention data collection after 12 months (Time 2) and a follow up of the intervention sample six months later (Time 3). Data were collected in the five participating schools and concurrently from two groups of five comparison schools each.

Process data were collected throughout the intervention and in particular during the follow up implementation phase. Process data were used to explore and understand the outcome data and to find explanations for any change or lack of anticipated change resulting from the

intervention. It was also used to understand how much the schools had or had not been able to participate in the project and achieve change and improvements. The process data were largely qualitative.

Learning from discussions on validity of qualitative data, about the importance of understanding the process as a means of explaining the outcome data, it was judged that integrating qualitative approaches with the quantified data also minimised any weaknesses (Cohen et al., 2007) in the quantified data by providing the opportunity for analysis of the results gathered through the outcome data collection. It also provided rich material for understanding the context and drawing inferences about what elements of the CPDL programme might need adaptation for a different context, which elements were likely to be crucial in any other context and so on.

What structure is appropriate for the quantified data collection?

Within the conservative academic and policy maker communities in Sierra Leone qualitative data are taken less seriously (Nishimuko, 2007). This study can provide only indicative data at best because of the small sample size and lack of randomisation but should show whether or not further research using this intervention, or enhanced iterations of it, is worth undertaking.

In the current study, equivalent groups were not possible to be formed through randomisation as this was impractical. The most important reason for this was that the funding for the experimental group of schools was specifically targeted at the five schools in Project Y and no others. In order to eliminate as much interference of other potential contaminating factors as possible, and thus to achieve a control group that was as similar as possible to the experimental group, schools were selected from the same district, under the same district deputy director for education. Comparison groups were selected to match the intervention schools but baseline equivalence was not possible to achieve. Financial and time constraints made larger groups impossible either of intervention or control schools.

Initial discussions with the teachers in Project Y prior to the CPDL, as well as in EducAid's experience in other communities, informed a decision in favour of a researcher led design over an action research project. The constraints of time and commitment to action research by the participants was judged to be too onerous and with too high a risk of non-compliance.

Experience has taught that in attempts to improve personal professionalism and whole school performance, it takes time to build relationships for full buy-in even of senior staff. If with senior staff this engagement is difficult, it is more so with more junior staff and particularly those not on the government payroll. Conservative estimates place the figures at 20% of the teaching population as not on the government payroll (P. Bennell, 2004) and outside of urban centres this proportion increases. In the Project Y schools, 39% of the teachers were 'community teachers.' Community teachers are not paid by government but by the community, or at times, not at all. This not only demotivates the individual teachers concerned but puts increasing financial pressure on the schools themselves and the school authorities who have to find alternative means to pay their staff or risk losing them (Williams, 2014). Morale and commitment within the teaching profession in Sierra Leone, is low (Ngegba et al., 2016; O'Neill, 2014).

Researchers in all contexts regularly find that it takes time to build relationships and break down mistrust with teachers participating in CPDL and research studies (Walford, 2001). As Walford points out, it is not always obvious to a school what the benefits will be of participating in a project or study. The benefits of participating in the more frequently seen model of CPDL in Sierra Leone, of a short one or two-day workshop with travel allowances, relatively luxurious food and a certificate of participation are more obvious and immediate. The beneficiaries do not always engage with the purported aims of the CPDL which should be the learning, and the change this learning will bring in the school. While there is a lack of literature examining the Sierra Leonean understanding of the potential negative impacts of some aid agency driven workshop programmes, EducAid's experience aligns with experiences elsewhere, exemplified by a study in Tanzania. Discussing an alternative, indigenous education programme associated with positive student outcomes, Welch (2012) identified corruption, inefficiencies, and a focus on extrinsic rewards for participation in CPDL in the foreign run education improvement programmes in Tanzania that she observed. Intrinsic motivations for learning are characterised as the motivation to learn for learning's sake, for the joy of gaining new skills and being a better professional (Lepper, Henderlong, & Gingras, 1999). Extrinsic motivation is learning for some other reward. To a large extent, there has been an unfortunate tendency to move away from intrinsic motivations to learn and gain the skills required to be an excellent professional. To gain the trust and enthusiasm of a team of demotivated teachers without the perks they are used to

associating with any workshop takes time and a significantly different approach from most NGO work.

Teacher buy-in for an action research process was judged to be unachievable in a first round of CPDL. With time, and as the relationships are built with the teachers involved, action research at a second phase of CPDL and partnership could well be possible. Bearing this in mind, it was judged that, while using an action research model might have been one way of engaging with this community, a researcher led design would be the most effective at this stage in the relationship with these particular schools.

d. Choice and construction of instruments for impact data:

The impact data consisted of a literacy test for a sample of the children in both the intervention and the control schools. This was undertaken before the intervention (Time 1) and repeated after twelve months (Time 2) and for the intervention schools a further six months later again (Time 3). While the three towns, Project Y for the intervention and M1 and M2 for the comparison, are in the same district, there is an hour drive, along bad roads, between them. Further, the schools in M1 and M2 were unaware of the activities being undertaken in Project Y and vice versa. This was judged important for the prevention of contamination between the intervention and the comparison schools such as occurred in the pilot study (C. J. Torgerson, Torgerson, & Brown, 2010). As noted above, when the data were collected in the M1 comparison schools, it was found that the standard was considerably higher so there was a concern that there was not good equivalence. A further cluster of schools (M2) within the same district, was identified by the Ministry of Education and the same data collected. These were found to have considerably lower standards. Both comparison groups were retained to provide the best possible sample size, if not ideal comparison.

Literacy test

Design of the literacy test

There are many literacy tests used internationally and particularly for the testing of English literacy. Literacy testing is key to the increasingly popular Progress in Reading and Literacy Study (PIRLS) and the Programme for International Student Assessment (PISA) but the majority of the standardised tests are designed for western countries and are not ideal for universal use (Rochex, 2006). The PISA tests have been useful for the purpose for which

they were designed but their design was not found suitable in this context because they are targeted at older children. PISA tests 15-year-old children in the core reading, maths and science skills. While PIRLS has a test aimed at primary school children, Sierra Leone has never participated and there are potential issues with copyright. The ASER tests, developed by the organisation Pratham UK (2013,) measure reading literacy and identify stages of competence: sound / letter stage, word stage, sentence stage and story stage. While administration of a reading aloud test was found to be impractical, the use of these stages was adopted and a parallel written test was evolved. The advantages of this were deemed to be that one test could reasonably be administered to all year groups and children would go as far along as they could and stop at the point at which they could no longer perform. In each case, except for the last level, examples were given to illustrate the activity in an endeavour to minimise the possibility of testing instruction comprehension rather than of the actual literacy level. In addition, the staff administering the test were given clear standardised written instructions to fully explain each task whenever necessary but using the given example only and not explaining any other task on the test.

(The literacy test and detailed marking scheme can be found in Appendix 9)

Administration of the test

Children were tested from all year groups. In order to avoid wasting the children's time, once they had completed all they could on the test, the children were then free to leave. This was in order to avoid modelling wasting children's time. As this is a constant issue in Sierra Leonean schools, and indeed elsewhere in many low income countries (Bold et al., 2017) it was important to avoid role modelling poor teacher attitudes in the research activities.

Choice of a single test

A decision had to be taken whether to change or not to change the test between pre and post intervention testing. It is acknowledged that there was a potential for the use of the same test to have an impact on the outcome as on the repeat tests the children might be expected to do better because they had already seen the test. Cohen et al., (2011) argued that the pre-test may sensitise children to the experimental variable and suggest a mitigation measure of introducing two more groups at the post-test to provide a comparison between those who had done the pre-test and those who had not both within

the intervention group and within the comparison group. The scale of such an undertaking was not possible with the budget available in this case and the risk was not deemed significant for such a test as was administered in this study.

Repetition of the same test was judged unlikely to have an important impact on the findings for two reasons. Firstly, because of the design of the test, any individual child would only have performed in any section as far as they understood at that point in time; if on a subsequent testing they did better, the material at that level would be new to them. Secondly, as the same test was used for both the intervention schools and the comparison schools, any potential advantage that might be gained by repeating the test would be equally applicable to both groups and therefore less relevant to the assessment of impact of the intervention. A copy of the literacy test and marking criteria is in Appendix 9.

Numeracy test or not

Although the intervention also aimed at supporting numeracy teaching and learning, it was decided for pragmatic reasons not to administer a numeracy test. Firstly, to find a universally applicable test provided the same challenges as finding a ready-made literacy test. Secondly, it is harder to agree on the content of numeracy testing, as most schools do not have access to a pre-agreed curriculum. The pathway through literacy skill acquisition is comparatively clear but less so for numeracy skill acquisition. Thirdly, there was little enthusiasm from the schools to have the children repeatedly out of class for testing, particularly in schools not benefitting from the intervention. Fourthly, over time, evidence from the public exam results should show whether there has been improvement and could be used as an alternative measure. Fifthly, the amount of data to be generated was already considerable and to maintain a more manageable quantity it was decided to focus on the literacy tests alone.

e. Choice and construction of instruments for process data:

A range of qualitative data to complement the quantified outcome data were to be collected throughout the implementation and follow up phase of the intervention. Qualitative data are generally deemed to focus on process and less on outcomes and provides a means of generating theories to express lessons that can be generalised to other contexts as well as to more fully understand the particular context (Cohen et al., 2007). Table 9.1 shows the times and types of data collected and from whom. (All the data collection tools are included in Appendix 9)

Table 9.2 - Schema for the collection of qualitative data

Type of data collection	September 2017 (Time 1a)	November 2017 (Time 1b)	June – Aug 2018 (Time 2)
Lesson observations with all teachers and head-teachers		36 – Project Y 45 – M1 27 – M2	30 – Project Y 25 – M1 19 – M2
Semi-Structured Interviews with Head-teachers	5 interviewees		4 interviewees
Semi-structured Interviews with Teachers			9 interviewees
Focus Group Discussions with Head-teachers		1 group 5 participants	1 group 4 participants
Focus Group Discussions with Teachers		1 group 10 participants	1 group 9 participants
Focus Group Discussions with Children		1 group 10 participants	1 group 20 participants
Focus Group Discussions with Parents			1 group 5 participants
Evaluation Workshop			1 event 22 participants
Semi-structured interviews with training team			3 interviewees

Lesson observations

The lesson observation instrument itself was designed to provide a simple adequate / inadequate / absent assessment of a number of desirable and undesirable behaviours with supporting comments. In addition, the observers were required to notice and record anything else worthy of comment.

Lesson observations of every member of staff were planned before the intervention and then at a six month and 12 month point by the EducAid team. However, some staff did everything possible to avoid the early observations and clearly found the idea threatening. Some teachers were not observed formally although the head-teachers were strongly encouraged to observe them too.

During the implementation phase two further lesson observations per staff member were to be undertaken by the head-teacher: one per term in addition to the observations done by the EducAid team.

The lesson observation forms included a section to describe actions in each lesson but also there were a number of features rated with a Yes, No or inadequate. This provides the means for some quantitative analysis of the numbers of occurrences of a particular feature at a given data collection point. Examples of features on the lesson observation form are praise or inattention in lessons, management of exercise books, orderly beginning and end of lesson and taking the register (See Appendix 9).

Lesson observations were undertaken at Time 1 (Time 1 = pre-intervention) and Time 2 (Time 2 = post-intervention) in the comparison schools as well as the intervention schools. Certain elements of the lesson observations required a response of yes, no or inadequate. The yes responses were counted and the percentage of lessons which received a yes for each element were calculated. Calculations were undertaken comparing the Time 1 and Time 2 percentages for each group of schools for each element to observe any patterns of change between Time 1 and Time 2. The comparison was between each group of schools' ratings at Time 1 and at Time 2 and the change for each element across each group of schools.

These ratings provided a quasi-objective measure of change. They also indicated which aspects of pedagogical practice were assessed by the trainers as having changed and thus what elements of the CPDL seemed to have been most effective.

Semi-structured interviews

Lesson observation data were complemented with semi-structured interviews with the head-teachers, some of the teachers and later some members of the school management committee. Semi-structured interviews provide the opportunity to compare similar feedback from all head-teachers but the potential is acknowledged for competition between them which might encourage an exaggerated or inaccurate presentation of certain elements of their information. Notes of inconsistencies were to be gathered. The interview schedules provided a structure for the conversation. There were further prompts and sub-questions in case the respondents needed encouragement to give more detail, to obtain a rich understanding of their perspectives and experiences. With a semi-structured interview, the interviewer is not constrained by questions that are too limited but has the scope to prompt for more information.

Interview schedules were prepared with guiding research questions, with a view to providing answers to the overall study's research questions. The guiding research questions for each set of interviews are recorded below against each set of interviews.

As Cohen et al (2011) phrase it, 'the semi-structured interview (is), where a schedule is prepared that is sufficiently open-ended to enable the contents to be reordered, digressions and expansions made, new avenues to be included, and further probing to be undertaken' (Cohen, 2011, Kindle Locations 10745-10746).

Because the detail that can be obtained in such an interview can be significant, two interviewers were present at each interview. One interviewer led the conversation while the other took notes and could intervene, if necessary, with an additional question or prompt.

Head-teacher semi-structured interviews

Semi-structured interviews were undertaken with each of the head-teachers individually and separately from the focus group discussions (see below for details). The aim was to gain evidence towards answering the following questions:

- 1 How does the Head-teacher see the QEP in his school's work / performance / improvement?
- 2 How does the Head-teacher see his own role in the school and in the school's improvement?
- 3 How can the QEP best support him?

The first two interviews were undertaken by the researcher. This also served as part of the training for the research team. The remaining interviews were completed by the team once they had been trained. The interviews were conducted early in the implementation period. It was judged important in order to gauge the head-teachers' understanding of their role at an early stage, in case of need for further intervention and support to encourage them more fully to feel ownership of the project. Overlap between the intervention and the evaluation is acknowledged but is not seen as problematic. Meetings and discussions with the head-teachers were a key part of the strategy but the discussion notes were also a useful source of data.

The same interview structure was used again for interviews undertaken at Time 2. This provided on-going insight into the head-teachers' experience of the intervention and her/his

role in the achievement of the goals of the intervention. It was judged important to repeat the interview to gauge impact on his leadership of the intervention and any changes in approach to managing change, managing staff performance and whole school activities. As all the head-teachers would be interviewed, it was also anticipated to be a source of useful information about differences between head-teachers to see if their own response had any impact on the whole school.

Teacher semi-structured interviews

Semi-structured interviews were undertaken with two teachers per school towards the end of the intervention to answer the following questions:

- 1 How does the teacher see the QEP in her / his school's work / performance / improvement?
- 2 How does the teacher see her / his role in the school and in the school's improvement?
- 3 How can the QEP best support her / him?

EducAid Team Coordinator interviews

Semi-structured interviews were undertaken with the three EducAid Team Coordinators at the end of the intervention on their return from the Time 2 data collection. The interviews aimed to answer the following questions:

- 1 What aspects of the QEP were the most & least challenging to deliver?
- 2 What aspects of the QEP have been the most and the least impactful?
- 3 What recommendations are there for any future QEP support in Project Y?
- 4 What recommendations are there for the implementation of any version of the QEP elsewhere?

Focus group discussions

To further complement semi-structured interview data, focus group discussions were used to explore the experiences of head-teachers, teachers and children from the intervention schools. This approach acknowledged that for some, a one-on-one interview could prove stressful and in the less intense group setting, they might contribute more easily. On the other hand, where the focus group participants came from potentially competing institutions, this might distort some contributions. Focus groups were nevertheless deemed a useful way of triangulating evidence and gaining awareness of the issues being raised.

i. Head-teachers' focus group

Separately from individual interviews undertaken with each head-teacher, a focus group discussion was held with all head-teachers together. The purpose of the discussion was to answer the research questions:

- 1 How do the head-teachers see the QEP in their school's work / performance / improvement?
- 2 How do the head-teachers see their own role in the school and in the school's improvement?
- 3 What differences were there in how the schools are implementing the QEP training and guidance?
- 4 How can the QEP best support them?

It was decided that the focus group be held after the one on one interviews so that the facilitator would already have some idea of differences that could be raised. This provided opportunities for triangulation of evidence gained in the one on one interviews and from other data sources completing the picture as much as possible.

ii. Teachers' focus groups

Focus group discussions with teachers endeavoured to answer the research questions:

- 1 How do the teachers see the QEP in their school's work / performance / improvement?
- 2 How do the teachers see their own role in the school and in the school's improvement?
- 3 What differences are there between how the different schools are implementing the training and what might be the causes of such differences?
- 4 How could the QEP best support the teachers and the schools

iii. Children's focus groups

Focus group discussions with groups of children endeavoured to answer the research questions:

- 1 Have the children seen any changes in the school since the training sessions?
(with particular reference to staff pupil relationships, behaviour management, teaching style (more participatory methodologies), gender equality)
- 2 What do the children think about the changes?

3 Are there any other changes the children would like to see?

Conscious of findings about interviewing children, for example Morrison et al (2000) and in order to minimise any fear or constraint caused by the presence of a figure of authority or significantly intimidating status, the choice was made to use facilitators who were:

- Not their own teachers.
- As close to the children in age as possible.
- Of the same nationality (The researcher, as a foreigner, was deemed inappropriate for the facilitation of groups of children as her presence would be distracting.)
- Of the same culture and able, if necessary, to use the tribal language, Themne, to facilitate explanations. (See Appendix 9 for all interview and FGD schedules))

Head-teachers' diaries

Head-teachers were asked to keep a diary record during the implementation phase.

The schedule for entries is in Table 9.3

Table 9.3 - The schedule for entries in the head-teachers' diaries

Entry type	Regularity
Lesson observation & record check: lesson plans, register, mark book, discipline record etc.	1 per teacher per term
Meeting minutes with whole staff	1 per 2 weeks
Reading Circle Meeting minutes	2 per week
Weekly reflections on what is going well and what is not going so well + anything else worthy of comment + any thoughts about why things are working or not	Overall on a weekly basis and when possible on individual teachers
Phone call records with EducAid team	1 per 2 weeks
Phone call records with fellow participating head-teachers	1 per month each or 1 conference call

Head teachers were asked to be as reflective and detailed as possible so that the record could contribute to the research and to their own endeavours for school improvement. All diary entries were to be dated and the type of entry to be identified.

The diaries were to be used for reference during their phone call meetings with the EducAid team and with each other as well as to record those phone meetings in the diary (see below).

EducAid facilitation and research team diaries

The EducAid facilitation and research team were asked to keep diaries and maintain records of all of their activities.

The schedule of the entries is shown in Table 9.4:

Table 9.4 - Schedule for entries in trainers' diaries

Entry type	Regularity
Lesson observation & record check: lesson plans, register, mark book, discipline record etc.	1 per teacher per term
Weekly reflections on what is going well and what is not going so well + anything else worthy of comment + any thoughts about why things are working or not	Each week
Phone call records with head-teachers	1 each per 2 weeks
School visits – general observations & records of all meetings and encounters with stakeholders	At least 1 per school per term
Training or refresher sessions held	Ad hoc

All diary entries were to be dated and the entry type identified.

Phone call records

A key intervention component was regular structured phone call follow up meetings between the EducAid team and each head-teacher. Without follow up, momentum in pursuing change can be lost. Phone calls could exert some degree of pressure on the head-teachers so the phone calls needed to feel supportive and focus on building trust, enhancing the relationship and not as a policing mechanism. In a slightly different context, Walford (2001) talks of how head-teachers like to talk so the team learned to always allow for some chit chat as well as the formal requirements of the call.

A record was kept by the EducAid team member of the content of the call, and by the head-teacher as explained in the section above. The record gathered information to help understand:

- The easiest and hardest to implement aspects of the training.
- The aspects of the training that had the greatest impact on the children's and teachers' behaviour, performance and attitudes.
- How the intervention might be adapted and / or added to, to better serve the needs of the teachers and head-teachers.
- What aspects of training needed to be covered again.

The content of the discussion was entered by the EducAid team member on a google sheet for further discussion by the team.

In practice, there were significant problems with diary records and phone call records. As explained in Chapter 14, the phone call records were insufficiently detailed and the diaries were not kept so this material was not available.

End of year Evaluation workshop

Rationale:

For a number of reasons: a. In the light of preliminary findings from the pilot project (Chapter 10) that not all the process data would be in sufficient detail to be useful, b. in the spirit of a move towards a more active participatory research style, and c. at the request of the donors, an end of year evaluation workshop was conducted to seek feedback from teacher and head-teacher participants on what elements of the intervention were perceived to have had most impact, and to have been most helpful.

Inevitably, there is a risk that, because I designed the CPDL, trained the delivery team, designed the CPDL evaluation including the evaluation workshop and trained the delivery team for the workshop there could be a feeling that it was 'doomed to success.' On the other hand, those who really know the context and the detail are those who may be able to recognise and understand the problems and issues better than independent outsiders.

There is further discussion of the issues relating to averting confirmation bias in chapter 16.

The workshop activities were designed according to the schedule in Table 9.5:

Table 9.5 - Evaluation Workshop activities

Activity	Description	Type of data collected	How data was collected
1	1a – Indicate the importance on a 1 – 5- star scale of each aspect of the intervention 1b – Explain what had changed in their own classroom situation as a result of each aspect	1a – Quantitative. Individual responses 1b – Qualitative. Individual responses	A grid where teachers indicated the no of stars, they attributed to each aspect of the intervention with 1 star being the least important and 5 stars being the most important A grid with space to write against each aspect of the intervention and indicate what sort of thing they really wanted
2	Explain what changes a visitor to their classroom would notice having visited last year and visiting again a year later	Qualitative. Individual responses	A grid with space to comment against main themes as to what a visitor would notice had changed this year, having visited the year before.
3	Each group to rank in importance, to them, all the different aspects of the intervention	Quantitative. Group responses	Printed large and cut out separately, each element of the intervention was then moved around until the group was happy with the ranking. This was then recorded on a separate piece of paper.
4	4a – Indicate on a scale of 1 – 5 stars how much they wanted each aspect of the intervention to be included in a future round of support 4b – Explain in more detail what they would want with respect to each aspect	4a – Quantitative. Individual responses 4b – Qualitative. Individual responses	A grid in which teachers could indicate the number of stars to give to each aspect of the intervention in terms of how much they wanted it to be included in any future support. A grid in which teachers were asked to give details about what they felt they still needed with regards to this aspect. There was also space for teachers to suggest additional elements.
5	Identify the most significant change in their teaching and school since the start of the intervention and to explain why this was so significant to them	Qualitative: Individual responses	There was a piece of paper with two questions and space to answer each one. Q1: What is the most significant way you have changed as a result of your participation in the QEP? Q2: Why is this change particularly significant to you?

f. Preparation of the EducAid team for data collection

Training for lesson observations

I trained EducAid staff in giving standardised feedback on lesson observations by:

- Talking carefully through the lesson observation instrument and giving examples of how to complete the form if observing certain things before conducting an observation.
- Twice observing the same lesson together while completing the lesson observation Instrument.

- Meeting after both observations to discuss exactly what had been written on the form and agreeing what should be there.

This process supported inter-rater reliability and standardisation of data collected but neither time nor the limited research background of the trainers were sufficient to ensure statistically reliable data.

I trained the head-teachers in undertaking lesson observations and standardising responses so that their data could contribute to the research but more importantly to enable them to provide feedback to their teachers, so they could actively advise and support teacher improvement. This was seen as a key part of the intervention and support to the school leadership during and beyond the period of the intervention.

Training for leading focus group discussions

I trained the team in how to conduct focus groups and keep effective records by:

- Asking the team to observe and make notes while the researcher conducted the first focus group discussions.
- Comparing and discussing their records with the researcher's own notes in order to come to an agreed acceptable standard of detail for the write up.
- Facilitating a discussion group while being observed by the rest of the team and the researcher.
- Further comparing the notes of each team member and also discussing as a team how effective the facilitation had been.

This process aimed to ensure inter-rater reliability and sufficiently detailed data for a good understanding of the context, the causes for change or no change and the value of further research around this intention.

Training for interviewing

As with all other components of the data to be collected, I trained the research team in interviewing. It was consistent with having a Sierra Leonean led programme to have Sierra Leonean led research activities and also to avoid the distraction, particularly for the children, of having a foreign facilitator.

The same process was followed of:

- Observing the researcher undertake two interviews.

- Discussing the methods and question choices made.
- Each member of the team undertaking an interview (of a participant in the pilot project) while being observed by one other member of the team and the researcher.
- Discussing further the methods and choices made by the interviewer.
- Agreeing ways of prompting for detail while avoiding asking closed or leading questions.

Training for holding phone call meetings and keeping records

The team were trained by:

- Listening in on loud speaker as I undertook two calls with participant head-teachers from the pilot project.
- Discussing the details and choices of emphasis made.
- Each member of the team undertaking a phone call while being listened to by one other member of the team and the researcher.
- Discussing the choices made.
- Agreeing ways of prompting for more detail.

Training for conducting and marking literacy tests

The research team members discussed the test with the researcher in detail before administering the test to the children. Understanding of the purpose of each stage of the test was confirmed. They practised explaining the requirements to the children by explaining them to each other. A protocol for how to run the test was used to support the test being run in standardised conditions no matter which team member was running it and no matter the school. They learned to avoid advantaging or disadvantaging any group by giving similar explanations to all groups. They practised using the examples to explain each activity without using the actual test questions.

The literacy tests, particularly questions 5, 6, 7 and 8 required careful marking. To support marker inter-rater reliability, the following processes were followed. (The detail of all aspects of the conduct and marking of the literacy test can be found in Appendix 9).

- I established a detailed mark scheme;
- A random selection of ten papers were marked by each member of the team. [Note: although the whole team undertook the training, in the end only two team members marked all the papers.]

- The marking was discussed and checked question by question for each paper until everyone could agree on the marks to be allocated.
- Two more papers were marked by each team member.
- The marking was compared again until there was no more than 1 or 2 marks different between markers.

Once all the scripts had been marked, I selected 30 scripts, ten from each group of schools, including two papers per school with results below 15% and the others from among the highest scoring. High scoring papers indicated a larger number of questions answered and the more difficult questions were where the greatest disparity in marking might be expected. I marked all of them. Using Excel, I calculated the Pearson correlation coefficient (r) as 0.9942. The Pearson correlation coefficient was probably so high because I found that I consistently marked 3 or 4 marks below the team i.e. although there was a difference, the difference was consistent. The mean for the scores on the papers that the team marked was 49.13% whereas the mean of my marks was 46.43%. Only on one occasion did I attribute 51% and the marker attributed 50%. This may be due to my being a native speaker and more apt to notice spelling errors. This was judged unimportant because the discrepancy was a consistent one so did not affect the correlation.

Also to be noted, although I trained the whole team, only two members ended up doing all the marking which again will have contributed to consistency.

The ethics clearance and consent process are detailed in Chapter 11 and Appendix 11.

g. Data analysis

Impact Data – Impact Evaluation

Three main types of impact data were collected. These were public exam data, attendance data and literacy tests.

National Primary School Examination (NPSE) results

The national primary school examination (NPSE) is sat by all primary class six students and a pass mark in the NPSE is required for entry to Junior Secondary School. The exam results should be held centrally by the Ministry at district and national level but it is usually difficult to get results from the Ministry so the exam results (the print outs that the schools collect from the Ministry each year) were collected by the EducAid team, photocopied and the

original returned to the school for 2016, 2017 and 2018 (two years prior to the intervention and for the exams taken towards the end of the 1-year intervention.)

The exam results come as grades out of 100 for five different papers:

- Quantitative Aptitude
- Verbal Aptitude
- Maths
- English
- General Paper

The grades from each paper provide an aggregate of up to 500. The government pass mark is 230 / 500.

The grades for all papers for all students for all schools were inputted on to Excel spreadsheets for further analysis. Disaggregation by gender was then possible and patterns could be observed.

The exam data were however ultimately disregarded as unreliable (Chapter 12).

Literacy Test

The literacy test results for students at Time 1 and at Time 2 were inputted on to Excel spreadsheets to facilitate the comparison of scores for each student and average scores of schools and groups of schools at Time 1 and at Time 2.

As there were three groups with large imbalances, analysis was done using an ANOVA regression analysis in SPSS. This took into account the pre-test imbalance and also improved the power of the analysis. This was done using cluster group means as the pre and post test scores, which accounts for clustering effects.

In this way, I calculated two effect sizes: Schools in Y compared with M1 and schools in Y compared with M2 to gain limited evidence of effect of the intervention (CPDL). The evidence is limited because the groups formed (Y, M1 and M2) are not equivalent at baseline as was seen from the pre-test data.

Given that only limited causal inference is possible with these data, subsequent analysis to further explain variability of certain characteristics can only be exploratory. T-tests using change scores were under-taken to explore (i) differences in impact on the girls' and the boys' outcomes and (ii) differences in impact on outcomes for students in classes 1 – 3

versus classes 4 – 6. Further t-tests were undertaken to explore differences in impact between the five intervention schools.

It is recognised both that the use of change scores is controversial (Hooper, Forbes, Hemming, Takeda, & Beresford, 2018) and that more powerful tests could perhaps have been used. It was felt, however, that the data did not warrant more than exploratory further investigation. T-tests provided a quick and simple way to explore possible differences between groups. The sample size was too small for any results to illustrate more than limited exploration, with a tentative suggestion that further investigation might be useful in future projects.

Attendance data

Registers were collected in all schools for the academic years 2016-17 and then at the end of the academic year 2017-18. The calculations for each class's register were checked and then attendance rates averaged for all three terms across the whole school providing an average percentage attendance for each school for each year.

Process Data – Process Evaluation

Learning from EducAid staff feedback

The three EducAid Team coordinators were interviewed in order to understand their own views of what aspects of the intervention had been most impactful, which aspects of the intervention had most been complied with and which aspects they would like to see continued, adapted or used again in different contexts.

Lesson observations

The lesson observation tool was designed to capture both quantitative and qualitative data. Some aspects of the lessons were described and commented on. The qualitative data were much harder to use because the level of detail was insufficient in nearly all cases. In practice sessions, the team had been trained to give as much detail as possible but in reality, there was a lack of experience in thinking, writing and responding fast enough to what was going on and the material was unusable.

Other elements of the lesson observations required a response of *yes*, *no* or *inadequate*. The responses were counted and the percentage of lessons which received a *yes*, *no* or *inadequate* for each element were calculated. Calculations were undertaken comparing the Time 1 and Time 2 percentages for each group of schools for each element to see if there

were patterns of change between Time 1 and Time 2 lesson observations. Tables of the results were created. The comparison was done between each group of schools' ratings at Time 1 and ratings at Time 2 and then the change for each element across each group.

These ratings aimed to provide a quasi-objective measure of change on the one hand but also give an indication of which aspects of pedagogical practice might have changed and thus what elements of the CPDL had been most effective. It was hoped that this would indicate what the team had, or had not, been able to pass on.

Interviews and Focus Group Discussions – learning from Project Y staff, parents, students' feedback

For all semi-structured interviews, focus group discussions, the discussion was recorded as completely as possible in a notebook and then transferred into a table in a Word document. The interviews were read through carefully twice. The Word document was then imported into NVivo 12. On the third reading, each phrase was coded to a node in NVivo. The nodes emerged and were created concurrently with the reading. The nodes were then regrouped and re-organised into appropriate overarching nodes. The interviews were then deleted from NVivo and re-imported and each text was coded phrase by phrase again in order to ensure that the regrouping of the nodes had not resulted in wrong attributions or groupings. Although the most important aspect of the analysis for me was what was said, the informant was also noted for the reporting of results in chapters 13 and 14. The nodes and child nodes were used to create the mind-map. Each branch indicated at least one mention in the discussions. The mind-map was created using the online mind-map maker, Coggle (<https://coggle.it>).

Evaluation Workshop

Not all of the data emerging from the workshop was usable. This may have been in part because of insufficient guidance being given by the EducAid team to the participants or insufficient understanding by the EducAid team of the purpose of each of the activities or a combination of both.

In activity 1a and 4a the initial intention was to ask teachers to rate the value of different elements on a Likert style scale, but the data indicated that the instructions had not been well understood (See Table 9.5 for detail of each activity). The same was found to be the case with the group work ranking activity 3.

The qualitative data from the Evaluation Workshop activities 2, 4b and 5, were analysed in the same way as the focus group discussion and semi-structured interview data.

This chapter has explained the decisions informing the evaluation design and the design itself. The next chapter discusses experience gained in the pilot and how that influenced decisions for the main study

Chapter 10 – Design & Methods (2)

Pilot study and the implications for the main study.

a. Introduction

This chapter explores the design of the pilot study and issues arising during implementation, which informed the current study. Funding was made available to EducAid to conduct a CPDL-based school improvement programme involving 20 schools in a district in the Northern Province of Sierra Leone. It was originally intended that this programme would be the focus of the main study but problems with data management were encountered during the implementation. This led to a decision to treat the larger project as a pilot from which the team would learn and to use a smaller and more manageable project for the main study.

It is not possible to state a research question at the beginning of the chapter on the pilot. This is because the CPDL programme that turned into the pilot was originally intended as the main study. It was introduced under considerable pressure with the re-opening of schools following an eight month shut-down during the Ebola crisis. Many parents, teachers and children were traumatized by what they had seen and experienced. It would only be a slight exaggeration to say that it was a time of educational reconstruction – but with few of the necessary resources.

As a direct result of this pressure major problems soon became apparent in maintaining both the intervention and the comparison samples. In addition, an underestimation of the need to support teacher literacy also became apparent. I therefore decided to use this project as a pilot for another, less ambitious, project that had been requested in a different part of the province. At this stage the aims of the pilot study were defined as:

- (a) To strengthen the integrity of intervention and comparison samples in a future project by learning from problems experienced in the pilot.
- (b) To identify changes in programme content and delivery in light of experience in the pilot.

b. Pilot study.

EducAid has had a number of iterations of its 'Quality Enhancement Programme' (QEP) working with groups of schools with apparent successful impact but has not had the

opportunity to fully evaluate the whole programme. In 2015, towards the end of the Ebola outbreak in Sierra Leone and consequent shut down of all schools in the country, money was made available to EducAid to start a CPDL based programme to support improvement in teaching and learning in 20 schools in Northern Sierra Leone. Knowing that securing full commitment from all those that are initially invited can prove difficult, meetings were held with 40 head-teachers from rural, semi-rural and urban schools. They were offered a choice between participating in the immediate round of CPDL sessions or in the follow up sessions to be provided a few months later. The idea was that the first group would be the subject of the main study and the second group could provide a control or comparison group of schools. Baseline data were collected from 37 schools as three later opted out. In subsequent years, the project grew and ultimately included 71 primary schools and 29 junior secondary schools.

c. Problems arising in the pilot study.

Samples

When the programme started, things did not work out as planned. Some of the intended comparison schools did not cooperate with the data collection. Other intended comparison schools joined in the intervention by sending teachers to the workshops and refused to wait until the second round thus taking themselves out of the comparison group. Other schools who had not been invited to join either the target or the comparison group came anyway, and no baseline data had been collected from them. In remote areas, schools are rarely invited to the large workshop programmes so when EducAid started working with some remote rural schools, neighbouring schools were keen to get involved, seeing this as an unusual opportunity. It was difficult to ask teachers to return, sometimes over 50 miles on terrible roads, when all they wanted was the opportunity to participate in the CPDL to improve their schools. EducAid concluded that while the general enthusiasm for the programme was encouraging, it distorted the possibility of collecting robust data about the efficacy and effectiveness of the intervention. In the end, 29 schools participated in the year 1 CPDL sessions and of ten comparison schools only five provided data that was useful for comparison.

This led to the conclusion that it would be better to work with fewer schools in a more contained and containable context where it was possible to avoid overlap between the intervention and comparison groups, or of any additional schools inviting themselves to join

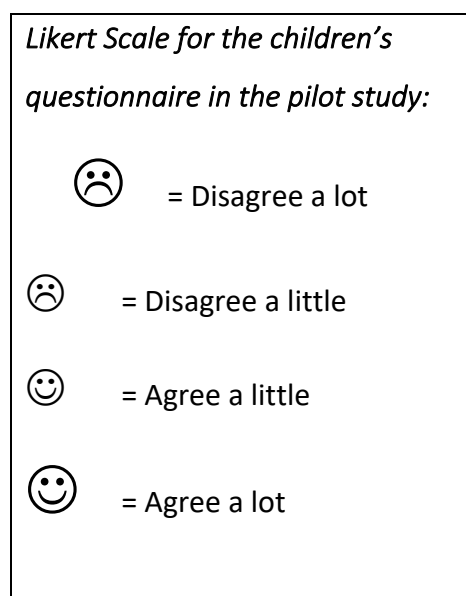
in. Accordingly, when EducAid was asked to run a CPDL programme with another five primary schools, it was decided to use this smaller project for evaluation purposes. Further, it was agreed with the local District Deputy Director for Education that data would be collected in a nearby town for the comparison, with an offer to seek funding to provide access to a follow up round of CPDL with these comparison schools as soon as possible.

Questionnaires

Questionnaires were used to explore attitudes of two groups (teachers and children) with a view to exploring differences in attitudes and perceptions between Time 1 and Time 2. In the pilot, an opinion questionnaire was used with the children and a sentence completion activity with the staff. Unfortunately, and for different reasons, neither was found to collect data that was deemed reliable.

The children's questionnaire had a Likert scale of strongly agree, agree, disagree and strongly disagree shown with smiley and un-smiley emoticons, see figure 10.1.

Figure 10.1- Likert scale symbols used in the children's questionnaire



The design was of a four not a five-option scale making it possible to create a bimodal scale for analysis purposes. It also avoided the possibility of a respondent choosing the middle option for lack of clarity of thinking.

However, too often the children only used either the strongly agree or strongly disagree emoticons for all their responses, indicating a lack of comprehension, so the decision was taken to use, in the main study, evidence from the process data described in Chapter 9 to investigate the children's experience of potential change.

The issue with the staff sentence completion questionnaire was different. A proposal to use a similar Likert scale questionnaire with the staff had been rejected because there was a concern that many teachers would know or be able to guess what a NGO would regard as the 'right' answer and respond accordingly. A lot of teacher-training in Sierra Leone has been provided by NGOs that are known to have pro-human rights attitudes. The team has had experience of teachers telling them that they never use the cane but discussions with children and parents reveal this as untrue. There is a cultural perception that human rights lobbyists have caused the societal breakdown that results in lack of respect for teachers, parents and elders more generally. However, teachers have not been trained in alternative strategies for behaviour management so feel they have no choice but to continue with traditional punitive strategies. It was therefore judged that simple Likert scale type questions would not elicit useful data but that there was a better chance of a realistic picture of teachers' views and competences through a sentence completion questionnaire. Although EducAid staff told teachers that there were no right or wrong answers, and that there was no point in doing the exercise if they were not going to work independently, they were unable to stop teachers in the pilot study from copying from each other. With the exception of one school, teachers were trying to give answers that they thought would be "right". Separately, some staff admitted to feeling quite frightened by the process as if it was an exam. Because the sentence completion exercise in the pilot study did not yield useful information, I decided to use focus discussion groups and an evaluation workshop to better understand the teachers' views of the CPDL programme in the main study.

Preparation of the EducAid team

When the Ebola crisis ended, there was great pressure on organisations to mobilise forces and re-start activities as quickly as possible. Accordingly, the preparation of the EducAid team was more rushed than would have been ideal. In addition, it was a time of flux in the country. There had been huge changes in the circumstances of many families with consequent pressures on family members. For EducAid this meant that some key staff were obliged to re-join their families in order to take on responsibilities of members who had died from the virus.

Overall, the result was that although the team had been trained in the necessary data collection techniques and data inputting, the training had been rushed and somewhat cursory. Delivery of the CPDL appeared satisfactory, but there were lapses in data collection

and in the data inputting. When the time came to review all of the data, the inaccuracies and gaps were significant.

Low literacy levels of participating teachers

While the statistics on the qualifications of teachers in Sierra Leone were known to the team, the reality of the low literacy levels of so many teachers had not been fully appreciated until the pilot was underway. Sierra Leone does not have a reading culture (Fomolou, 2019; Government of Sierra Leone, 2012). This is not surprising because there are 17 tribal languages in Sierra Leone; these are generally the language any child learns first. None of them are written languages, (though phonetic recording has been introduced in order to protect the language and culture). Consequently, there are no children's books in the mother tongues with which children can learn to love reading. This, coupled with the facts that by law all schooling is in English, the language of the former colonial masters, and that English reading materials are only found in the most affluent homes, means that reading tends to be a chore not a pleasure. Literacy levels remain generally very low: 32.4% of adults are literate (UNDP, 2018). Very early in the pilot, the team realised that further support for the teachers' own literacy would be essential.

Ownership of the programme by the head-teachers

It was during this pilot project that the importance of the head teacher's role became clear. When a head-teacher refused to participate and just sent his teachers to the CPDL sessions, there was little or no impact on the school's practice when the teacher returned back to the classroom. When a head-teacher felt threatened by his staff acquiring new skills and refused to allow them to participate fully or implement new ideas on return to school, it was impossible for EducAid to support change. In some cases where the head-teacher gave verbal support but nominated an alternative school-based project coordinator other than himself, the buy-in from the rest of the staff was significantly limited.

Anecdotal evidence suggests that very few heads have had any leadership or management training. Many are in position because there is no other option around or they have political connections that have placed them there (see chapter 4). Rarely if ever are they in post because they are the best out of a range of excellent candidates. At the beginning of the pilot intervention, very few heads, if any, had ever undertaken lesson observations of their staff and few saw themselves as having any responsibility for the performance of the school or of individual staff. A majority of heads held staff meetings at most only once per term.

The heads were not, in general, anti-teamwork but had done nothing to create a mechanism or platform for it.

d. Lessons learned from the pilot and their implications for the main study.

Certain elements of the intervention and evaluation in the pilot study were adjusted in preparation for the main study:

Samples

Smaller and specific samples were used in the main study so as to ensure clear intervention and comparison groups with no danger of contamination or cross-over as had happened in the pilot. Details are given later in this chapter of how the samples were selected for each aspect of the evaluation.

Replacement of questionnaires

Questionnaires were replaced with focus group discussions because of the problems highlighted above: (i) the children did not understand the questionnaires and (ii) the teachers appeared to perceive the questionnaire as a test and could not be stopped from consulting with each other. It was concluded that focus discussion groups would elicit more useful data.

Preparation of the EducAid Team

Considerably more time was spent in preparing the EducAid team in readiness to run the CPDL programme and the data collection and data inputting. A key part of the CPDL design was that it should be replicable and affordable. Because the facilitation team was Sierra Leonean, it was vital to ensure that the team had the appropriate preparation so as not to fail at this first hurdle. Time was spent with the Sierra Leonean delivery team in gaining greater understanding of the purpose and importance of each element of data to be collected, and each element of the CPD. In addition, there was an emphasis on identifying the risks and areas for potential failure, with mitigation strategies to pre-empt possible sources of weakness in the programme. The researcher spent time modelling practices, observing the team practising techniques and discussing each element to be sure of team members attaining a high standard of reliability as detailed in Chapter 9. The team was further trained in data inputting onto google documents and sheets on mobile phones to ensure nothing could be lost.

Reading Circle Meetings and Materials

Although dictionaries had previously been given to all participating teachers, the reading circles had not previously been attempted. During interactions with the head-teachers and the teachers in the pilot, the twin problems of low levels of literacy and lack of access to reading material were identified. In discussion with the head-teachers it was agreed that reading circles would provide:

- A mechanism by which the head-teacher could better understand strengths and weaknesses of his / her staff and develop further strategies to support them if needed.
- Some simple reading material that was less threatening than a complete book. Short stories were first used and then books with short chapters as they grew in confidence.
- The head-teacher with the opportunity to gather her / his staff on the pretext of practising reading but this could be leveraged for discussion on other issues.
- Reading materials not just on fictional topics useful for engaging the teachers' creativity but also on non-fictional topics with important messages, for example the use of stories of inspirational women providing some counterbalance to the plethora of stories of successful men and the dearth of knowledge about possible strong female role models.
- Materials that could be used among the staff to support their literacy but could also be taken into the class where interesting and stimulating material is also often lacking.

The Role of the Head-Teacher

From experience in the pilot study, it became clear that a key part of the intervention must be directed at greatly enhanced support to the head-teachers. Although, the head-teachers were trained during the pilot study as project coordinators, it was clear that there had been insufficient emphasis on ensuring the head-teachers' ownership of the whole improvement project in their schools.

Specific professional learning sessions were developed for head-teachers as coordinator of this particular school improvement project but also as leader of the school more generally. This involved supporting the head-teachers in identifying their own goals and setting targets for the schools and outlining their own role very clearly in the achievement of each target.

e. Main study sample

Samples.

For the purpose of collecting data, unless data are to be collected from everybody in the entire population, samples must be taken. This section details the methods used for sample

selection and outlines constraints and limitations encountered and strategies deemed to mitigate the risk of negative impact on the validity or generalisability of the results.

Schools

Participant schools

The pilot project showed that in order to train the research and facilitation team to stay in control of the data, it would be necessary to work with a smaller group of schools than in the pilot. The opportunity arose when EducAid was asked to provide a one-year CPDL programme for five schools with whom they had not worked before. This was funded by a Dutch NGO and therefore other schools could not gate-crash as they had in the pilot. It is acknowledged therefore that this is not a random sample of schools but does include a range of schools supported by different agencies and all working in the same small town with otherwise comparable conditions.

The donor asked EducAid to provide CPDL to the five primary schools in a town with a population of approximately 10,000, in one of five districts comprising the Northern Province of Sierra Leone. The five-school project ("Project Y") was chosen for a robust testing of the CPDL because comparison schools in towns M1 and M2 were available. The intervention focused on a smaller number of schools in a comparable semi-rural context than was possible in the pilot phase. Statistics for the five schools at Time 1 are shown in Table 10.1.

Comparison schools

It is necessary when working in schools in Sierra Leone to work closely with the local Ministry of Education authorities and EducAid therefore asked the District Deputy Director of Education for permission to approach five schools in nearby M1 as comparison schools.

Table 10. 6: School statistics for the intervention schools at Time 1

School	Number of students	Number of Teachers		
		M	F	Total
Project Y 1	566	8	5	13
Project Y 2	487	8	4	12
Project Y 3	228	5	3	8
Project Y 4	250	4	4	8
Project Y 5	327	5	5	10
Total	1858	30	21	51

The Deputy Director assigned the five primary schools to work with EducAid. The greatest limitation was when he selected a single sex girls' school as one of the comparison schools

but as there was no alternative, the data collection programme continued. It is important to be sensitive, cooperative and flexible when working with the authorities.

One might argue that the 29-school sample in the pilot would have been a more appropriate sample for the main study. Many researchers argue for a sample size of 30 (Cohen et al., 2007). Yet although the unit of analysis is, at one level, the school, I hoped to understand the impact on individual teachers and on their students. In the pilot study, there were 661 teachers across the intervention schools. Managing data from all 661 proved challenging and created difficulties in controlling for other variables. Across five intervention schools in the main study, there were 51 teachers teaching a total of 1858 children.

Outcome data collection

Literacy tests

There has consistently been resistance from schools to all of the children being out of class for testing on three separate occasions. A compromise was reached; the oldest three girls and the oldest three boys in each class were sent for the literacy test, from each school. This had an acknowledged potentially distorting effect as children do not always move forwards with their age group, but based on how many years they have been in school. However, once again, for pragmatic reasons of cooperation with the relevant authorities, it was decided to agree to this sample. The same constraints and limitations would be experienced by all schools, reducing the importance of any distortion.

Lesson observations

Every teacher was to be observed at the beginning, during other support visits and at the 12-month data collection point by the EducAid team. In addition, the head-teachers were asked to undertake one lesson observation per staff member per term. This would provide quantitative and qualitative data about the potential changes and the nature of any change. In practice, not every teacher made themselves available at the Time 1 and Time 2 data collection points and this included some head-teachers.

Process data collection

Semi-structured interviews with head-teachers

Semi-structured interviews were undertaken with all head-teachers to avoid missing crucial information about the involvement of the head-teacher in the implementation phase of the programme. The head-teachers were interviewed early in the implementation phase (Time 1a) and at the 12-month (Time 2) points.

Semi-structured interviews with teachers

Equally, semi-structured interviews with all the teachers were undertaken to obtain information to triangulate against the lesson observation data and children's literacy scores. The teachers' interviews took place at the end of the implementation phase (Time 2).

Focus Group discussion with head-teachers

A focus discussion group was run with all the five head-teachers. There was no sampling because the entire population of head-teachers was so small that sampling was unnecessary.

Focus Group discussions with teachers

In a bigger study, one might want to have focus group discussions with teachers from each school as well as a mixed group with teachers from each school together. In order to provide a range of data with which to triangulate the data from the interviews, but without having too many groups, it was decided to work with one group composed of a teacher with high participation rates and a teacher with medium participation rates from each school. In order to reduce the likelihood of gaps due to absenteeism, teachers with low rates of participation were not invited to participate.

Focus Group discussions with children

There were to be two groups: (i) one group with one class six boy and one class six girl from each school and (ii) one group with one class five boy and one class five girl from each school. In the end, the team decided to merge these groups. Further single school groups were intended but did not occur. Their purpose was to gain an understanding of any differences between implementation of the intervention between schools. This opportunity was missed with a consequent loss of insight.

a. Procedure and Administration.

Timing of data collection

Timing of outcome data collection

The children's literacy tests were undertaken before the intervention started (Time 1), and at the 12-month point at the end of the intervention period (Time 2). Lesson observations were undertaken at Time 1, a six-month mid-term point (Time 1b) and at Time 2.

Timing of process data collection

The process data were collected as per the schedule shown in table 10.2:

Table 10.7 - Data type and timing of data collection

Data type	Timing
Lesson observations by Head-teachers	Once per term during implementation phase
Lesson observations by EducAid team	At Times 1, 1b and 2 – the lesson observations provide outcome and process data
Head-teacher interviews	3 months after training and towards the end of the intervention
Teacher interviews	Towards the end of the intervention
Head-teacher focus groups	3 months after training and towards the end of the intervention
Teacher focus groups	Towards the end of the intervention
Children focus groups	Towards the end of the intervention
Head-teachers' diaries	Throughout the implementation phase
Phone call records	Weekly, throughout the implementation phase

Differences between the pilot and the main studies

Apart from learning important lessons for the actual design of the CPDL programme and support, detailed in Chapter 8, it was also necessary to make some important adjustments to the data collected between the pilot and main studies.

The key differences between the pilot and main studies are summarised in table 10.3.

f. Problems encountered in data collection in the Main Study.

Sampling – schools

The choice of schools was not random because the participant schools were selected by the donor organisation as they wanted to see all of the schools in Project Y improve. The Ministry of Education authorities did not give a completely free reign for the selection of the comparison schools. The first five schools selected appeared to be significantly higher performing than the intervention schools so a further five schools were selected by the Ministry of Education and these were found to be significantly lower performing than the intervention schools. The two groups of comparison schools were retained.

Head-teachers follow up calls

Although the principle had been established that there would be follow up meetings on a weekly basis with the head-teachers, initially, they were regularly not available when called and did not take the initiative to call the EducAid team. It required a further meeting with

Table 10.8 - A summary of the differences between the pilot study and the main study

Pilot Study	Main Study
<i>Sample and Sample Size</i>	
<ul style="list-style-type: none"> • 29 participant schools • 5 comparison schools 	<ul style="list-style-type: none"> • participating schools • 5 comparison schools
<i>Evaluation structure and methods</i>	
<ul style="list-style-type: none"> • <i>Outcome data:</i> • Children's literacy tests • Children's opinion questionnaires • Staff questionnaires • Lesson observations 	<ul style="list-style-type: none"> • <i>Outcome data:</i> • Children's literacy tests • Lesson observations
<ul style="list-style-type: none"> • <i>Process data:</i> • Head-teachers' diaries • EducAid team diaries • Training records • Phone call records with head-teachers • School visit reports 	<ul style="list-style-type: none"> • <i>Process data:</i> • Head-teachers' diaries • EducAid team diaries • Training records • Phone call records with head-teachers • School visit reports • Focus Group Discussions with Head-teachers, teachers and children • Interviews with head-teachers and teachers
<i>Preparation of the EducAid research and facilitation team</i>	
<ul style="list-style-type: none"> • Minimal training in programme delivery, data collection and data entry 	<ul style="list-style-type: none"> • Intensive training and practice of all techniques and data entry
<i>CPD design and delivery</i>	
<ul style="list-style-type: none"> • Stake-holder engagement • Whole staff participation • Two-week intensive CPD sessions • Head-teachers trained as project coordinators • Follow up visits and lesson observations • Dictionaries to participating staff • Follow up phone calls with head-teachers 	<ul style="list-style-type: none"> • Stake-holder engagement & agreed expectations established with all groups of stakeholders • Whole staff participation • Two-week intensive CPD sessions • Head-teachers trained as project coordinators – significant upscaling of trainings • Follow up visits and lesson observations – head-teachers trained more intensively to observe lessons and respond to findings • Dictionaries to participating staff • Establishment of Reading Circle Meetings • Follow up phone calls with head-teachers • Inter-school head-teacher calls • Interviews and focus-group discussions for data collection but also to support appropriation of the project by participants

the head-teachers to encourage them to make the project their own and considerable training on other coordination strategies and techniques before they started to take responsibility for the calls and indeed the inter-school calls.

Head-teachers' diaries

There was considerable resistance to the idea of keeping a diary and recording thoughts and changes or concerns. Although some eventually claimed to be keeping diaries, there was

never anything shown to us that was relevant or useful in terms of data. This is significant for their own professional development as well as resulting in a loss of insight for the study.

Focus group discussions with children

There was a plan to include 12 focus group discussions. Only one FGD was conducted with children, with representatives from each of the intervention schools. Time did not allow separate FGDs for each school.

g. Conclusions

The pilot study provided an excellent learning forum for the EducAid training and research team. Important lessons about rigour, consistency as well as weaknesses in the intervention itself were recognised. These lessons were applied to the main study processes and activities resulting in stronger impact and process evaluation.

Further lessons can be learned from the main study particularly with regards to the team's understanding of what each piece of data contributed to the overall evaluation and therefore the level of detail required.

Chapter 11 – Design & Methods (3)

Ethical Considerations

a. Introduction

This chapter discusses the key ethical considerations raised and addressed in the process of undertaking this research and is the last of the method and design chapters.

b. School of Education Ethics Procedures

My research was carried out in Sierra Leone but as a UK researcher and a student of Durham University, I worked in line with the School of Education, Durham University ethics procedures which are themselves in conformity with the requirements of the British Educational Research Association Ethical Guidelines, fourth edition (British Educational Research Association [BERA], 2018). In line with the School of Education ethics procedures, all research conducted by staff and students in the department is subject to the standards set out in the Department Code of Practice on Research Ethics to be found on the School of Education section of the Durham University website (Durham University, 2019). This means, in practice, that all researchers within the department submit an ethical clearance request to the ethics committee explaining the aims and processes of the research and how ethical considerations will be addressed.

Accordingly, I submitted my application to the ethics committee (Appendix 11.B, C & D,) as soon as the opportunity arose to make progress with the research and received clearance. The letter of request was accompanied by:

- The completed application form (see Appendix 11) detailing the aims of the research and the means for obtaining data and obtaining participant consent
- A copy of the research proposal (see Appendix 11) detailing
 - aims of the study
 - description of the target cohort / sample
 - methods and procedure of data collection,
 - data management and
 - reporting strategies.
- A copy of the consent forms for both adult and child participants.

Permission was granted by the ethics committee and a letter issued confirming that the research conformed with British Educational Research Association principles (Appendix 11.A).

In Sierra Leone compulsory ethics training was provided for all researchers as part of preparation to go into the field. This was a requirement that I imposed as a condition of participation in the team to ensure that we could confidently as a team deliver on the requirements laid down by the School of Education in line with BERA requirements. The team was trained in the ethical concepts of confidentiality, informed consent and data protection as well as the administration of the consent forms to ensure a consistent approach to communicating with, and about, participants including children. This measure aimed to ensure the dignity, wellbeing and safety of participants. The ethical component of the team's preparation took one day out of the overall training, all of which I conducted. This was undertaken before the research started and there were regular reminder discussions before each new group of participants was addressed.

c. Theoretical and ethical issues

Potential impact on teachers of labelling schools as successful – or not successful.

A long-standing critique of labelling in education, for example of students as disruptive, has documented its potentially negative impact on teacher –student interaction, for example Hargreaves's (1967) and Willis's (1977) seminal ethnographic studies. More recently Algraigray & Boyle (2017) have argued that the label special educational needs (SEN) had come 'to include and construct exclusionary practices within education' (Algraigray & Boyle 2017, p.75). The impact on teachers of labelling a school, in Ofsted's terms, as 'outstanding' or as 'in need of improvement' or, worse, 'failing' has not been explored in such detail in the academic literature but is likely to be just as pronounced. Both in the UK and in Sierra Leone teachers in schools labelled outstanding could assume that their own practices and ideas would work for teachers in less successful schools, irrespective of the context. Conversely, teachers in less successful schools could come to believe that no new ideas and no amount of effort would enable them to improve. Dweck (2000) describes the belief that no amount of support or effort will bring success – and the consequent reluctance to try – as 'learned helplessness'. The success of any workshops would depend on overcoming the possible consequences of labelling; and that would be achieved only if teachers participating in the CPDL could start to see their own classroom performance in a different light.

This was addressed by integrating cognitive, pedagogical and social aims in the design of the CPDL. This aimed to give teachers opportunity to express concerns and take responsibility for their own learning. As important, that would also enable the training team to challenge labelling and discriminatory practices.

Informed Consent & Confidentiality

Implicit in the delivery of a CPDL based school improvement programme with an associated evaluation is the need for fully informed consent, confidentiality of responses and some means for mitigation of the reality that if all staff in any given school are involved in a programme, it will be difficult for them to withdraw if they become uncomfortable with any aspect of the programme.

Informed consent is addressed through adherence to the protocols outlined by the School of Education ethics requirements. In the School of Education Code of Conduct the guidance includes clarifying the need to avoid any coercion or deception in seeking consent, as well as ensuring no group is disadvantaged by their age, class etc. This was addressed by ensuring sufficient time to translate and explain the project and the use of the data in engagements with the communities, the staff and the students. The information sheet and consent form were in written English but were read through and translated and discussed in detail. The information sheet (See Appendix 11.C) explained not only the purpose of the research: to find new ways of strengthening the education system in Sierra Leone; but also the participants' time commitment, the security provisions for the storage of data and their right to withdraw at any point.

With child participants, consent was obtained from the parents or teachers and from the children themselves. Many parents are unable to read so the children's consent form was explained to them.

Confidentiality was ensured by making sure that any data collected was secured by and only accessible by the research team. The biggest concern would be if children gave negative feedback about a teacher or a teacher gave negative feedback about a head-teacher and the person implicated in the negative feedback found out who had given the feedback. This could potentially cause problems for the person providing feedback. I trained all staff on the importance of confidentiality and keeping data secure. Data were then secured in google drive files accessible only by the research team. In the pilot project, children were given research numbers but in the main Project it was decided that it would cause less confusion

for the data collection if it was ensured that nobody outside the research team could access any individual's responses.

The researchers were inevitably perceived to be in a position of power. This meant that participants may not have felt completely free to withdraw or refuse to participate in the research. It was considered to be part of the teachers' job to participate in the training workshops and school improvement activities but they had the right to withdraw from the research. Mitigation was achieved by insisting on confidentiality so that their head-teacher could not have found out that they were not participating in the research. In practice, we made it clear that teachers and students could withdraw from the research, that participation in focus group discussions or interviews was voluntary and that no-one in authority would be told about their withdrawal. This was discussed with the head-teachers and with the teachers, but there were no such requests made to us. A greater danger was the cultural preference to give authority figures the feedback that participants thought they wanted so little negative feedback was given even when it might have helped make the programme stronger.

Safeguarding

EducAid has a strong safe-guarding policy and informed consent is always sought from parents, guardians, staff and children before participation in school activities. It was made clear that participation in the qualitative research and the literacy test was voluntary and that the information they gave researchers would remain confidential.

Risks

There were no significant risks identified for the research. For ensuring consistency between focus groups and interviews, a member of the research team (who is fluent in Krio or Themne) was present for each Focus Group Discussion and interview.

It was anticipated that the researchers being in a position of authority would affect what information participants would feel able to disclose, and how much detail they would be willing to go into. To counter this obstacle, it was emphasised that openness would help the facilitators improve the programme for future cohorts, that there were no 'wrong' answers and that evaluators simply wanted any views, experiences and suggestions participants were willing to share.

Non-beneficiary participants

There were non-beneficiary participants in the research in the control schools. They were fully informed about the purpose of the research and all efforts were made to ensure that there was no risk of harm to them. Every attempt was made for the data collection activities to be as undistruptive to day to day school activities as possible. Funding is being sought to bring the benefits of the intervention to the control schools too.

Non-participants

Every endeavour was made to ensure there were no negative consequences of the intervention to participants and non-participants. It was hoped that learning from this study might be of benefit far beyond the schools in which it was carried out so there should be positive gain for non-participants. It is believed that no harm was done. This was not a high-risk project.

This chapter covers the main ethical considerations encountered and addressed during this research and concludes the section on design and methods. The following section discusses the research results.

Section 5 Results



Chapter 12 – Results (1)

Outcome data – Exam results, Student attendance & Literacy scores

a. Introduction

This chapter describes results from the impact evaluation, for which data were collected from:

- National Primary School Examination (NPSE) results
- Literacy tests (see chapter 9 for details)
- Attendance data

These were collected for three groups: the intervention group which consisted of five primary schools in Project Y, two comparison groups: five control schools in M1 and five control schools in M2, all in Northern Sierra Leone.

For clarity, Time 1 refers to the data collection point before the Project Y intervention started and Time 2 as the data collection point at the end of one-year of intervention. A further literacy test was administered in the intervention schools six months after the intervention ended (Time 3).

Due to a potential risk that schools in the first comparison group were insufficiently similar to those in the intervention group, data were collected from a further sample of five schools and the ultimate choice was to maintain a comparison sample of ten schools (Chapter 9).

b. National Primary School Examination (NPSE) Results

Table 12.1 shows the percentage of children passing the NPSE in each of the intervention and comparison schools in 2016, 2017 and 2018. The intervention took place during the academic year 2017-2018. These results relate to the two years prior to the intervention and to those for the end of 2018, which was the intervention year. The results are for all the schools in the intervention group Project Y and the two comparison groups: M1 and M2.

Obvious anomalies in these results include the zero pass rates in 2016 in Project Y 3 and M2 2 and in 2017 in M2 1. There are also low rates in 2016 at Project Y 1, M1 4 and M2 4.

While neither the schools nor the Ministry were willing to discuss these results, there are

Table 12:1 – Per cent pass rates in the NPSE for class six children from five schools in Project Y (the intervention group and from five schools in each of two comparison groups (M1 and M2) in 2016, 2017 and 2018.

		% pass 2016	% pass 2017	% pass 2018
Project Y (Intervention Group)	Project Y 1	14.5	98	100
	Project Y 2	40	92	90
	Project Y 3	0	88.9	74
	Project Y 4	89	100	100
	Project Y 5	77.1	97	100
M1 (Comparison Group 1)	M1 1	98	78	100
	M1 2	92	92	87
	M1 3	78	84	98
	M1 4	10	87	93
	M1 5	74	96	100
M2 (Comparison Group 2)	M2 1	30.8	0	92.6
	M2 2	0	65.2	100
	M2 3	60.9	67.5	89.6
	M2 4	11	42	100
	M2 5	100	100	96

some contextual factors that could have contributed. The Ebola crisis in 2014 – 2015 shut all schools and caused enormous disruption across the country. The district where Project Y, M1 and M2 are located was among the least affected having only 372 confirmed cases whereas, for example, 3097 cases were confirmed in the Western Area. The district was therefore relatively unaffected by the high levels of death that were seen in some other districts (Brown et al., 2016; Miglietta et al., 2019). The schools were shut from August 2014 to April 2015 but when they were allowed to reopen, the district teaching workforce was largely intact. Children would normally sit the NPSE in April, but it was postponed for two months. The short teaching time resulted in poor results in some places. This may be the cause for the low mean scores in 2016 in some schools but seems not to provide a complete explanation as it should have affected all schools to more or less the same extent. One possible alternative explanation for a zero pass-rate may be because occasionally schools and individuals are judged to have cheated and their results are withheld by the exams council. A bigger problem derives from the discrepancy between the standard of learning

indicated by the public exam results and the standard of learning indicated by the EducAid team's interactions with the children in these schools and the literacy test data. When, two weeks before the exam, the team provided support to the exam classes in Project Y schools, they found that the children could barely read or write a sentence and were not working at a standard that would achieve a pass grade in the public exam. The standards demonstrated in the literacy test gave evidence of the same situation in the comparison M1 and M2 schools.

This concern also aligns with recent UNICEF findings that 97.4% of class 2 children and 86.5% of class 4 children in Sierra Leone cannot recognise letter sounds (MEST & UNICEF, 2018).

Reasons for discarding these data

In two days of intensive work the team found that most exam class students could not read with comprehension and were incapable of tackling the sample papers they reviewed. It was their opinion that the 100% (and close to 100%) pass rates in all of the schools in which these results were collected were not representative of any genuine student ability but a reflection of corrupt examination practices. It is common practice for children to take a 'transport' contribution for the invigilator who then reads the answers (or their best guess) aloud to the entire group. Four of five papers require only multiple-choice answers and the correct answer can easily be called out to the group. Those candidates for whom the task is a mystery will still struggle and there is of course no guarantee that the invigilator in question knows the correct answer so even this approach to the exam does not necessarily result in high marks. However, as the pass mark is 230 out of 500, this sort of corrupt practice can produce a higher number of pass grades than would realistically be expected.

Bearing in mind the low literacy scores and the standards of teaching found during visits to all three groups of schools, none of the schools involved are believed to have achieved these pass marks reliably. There are some jumps in achievement between 2016 and 2018 but this is believed to be associated with schools understanding better how to play the system rather than to a change in student performance.

It had been hoped that the National Primary School Examination (NPSE) results would provide useful data. Exam results were collected from all fifteen schools: five intervention schools and ten comparison schools. Ultimately, however, it was concluded that the results probably lacked integrity. Schools where the EducAid team found children unable to write

their own sentences or read or understand basic instructions when doing literacy tests, were apparently suddenly able to pass the public exams. The results were deemed unreliable, providing no useful data with which to work.

Probably the only exception to the conclusion that the data provided no useful information is the frequent imbalance of the sexes among the exam candidates.

Table 12.2 shows the total number of candidates and the percentage of girls in each cohort. In Project Y schools, there is a minority of female candidates in ten out of 15 entries (from five schools in the three years from 2016-2018). There was no change in this regard between Time 1 and Time 2 exam classes. If the intervention has an impact on the numbers of girls completing primary school, it will not be seen for some time.

In M1, apart from the girls' school which inevitably has 100% girls, M1 2 twice had more girls than boys and on one occasion M1 5 did also. In 2016 M2 1 entered seven girls out of 13 and M2 2 entered nine girls out of 16 total candidates.

Across all three groups of schools, excluding the girls' school there are 42 sets of entries, for which 30 had fewer girls than boys, although only four schools had a minority of girls in each of the three years.

This appears consistent with published statistics on girls' primary school completion rates. The current mean number of years of schooling for girls is 2.7 years as opposed to 4.3 years for boys (UNDP, 2018). The primary school dropout rate in Sierra Leone is 48.9 % (UNDP, 2018) although I found no UNDP figure showing disaggregation by sex. Nevertheless, combining the two sets of data, it appears that while many children do not complete primary school, girls are less likely to complete than boys.

The 2014 Social Institutions & Gender Index reports that *'33.8% of girls aged 15 – 19 have received no education at all, compared to 23.1% of boys. This reflects social norms that attach less value to girls' education, particularly in rural areas, as well as economic hardship (forcing parents to choose which children to send to school), and the prevalence of early marriage.'* (OECD - Organisation for Economic Co-operation and Development, 2017. p7).

Table 12:2 - Numbers of candidates and the % of female candidates for the years 2016, 2017 and 2018 in the fifteen intervention and comparison schools.

		Total Can- didates 2016	% of Can- didates that are girls 2016	Total Can- didates 2017	% of Can- didates that are girls 2017	Total Can- didates 2018	% of Can- didates that are girls 2018
Project Y (Intervention Group)	Project Y 1	41	41%	94	53%	85	34%
	Project Y 2	20	50%	37	51%	66	45%
	Project Y 3	31	26%	27	33%	50	56%
	Project Y 4	18	50%	28	43%	33	33%
	Project Y 5	26	35%	35	40%	45	40%
M1 (Comparison Group 1)	M1 1	45	36%	49	43%	44	39%
	M1 2	26	58%	62	42%	58	79%
	M1 3	23	48%	25	44%	47	32%
	M1 4	30	100%	39	100%	59	100%
	M1 5	77	45%	127	47%	45	58%
M2 (Comparison Group 2)	M2 1	13	54%	18	39%	27	37%
	M2 2	16	56%	23	39%	13	38%
	M2 3	23	48%	40	48%	48	42%
	M2 4	20	45%	19	53%	6	33%
	M2 5	17	41%	23	61%	49	35%

In summary, the NPSE data were found to give no meaningful understanding of the impact of the intervention and are useful only to note the gender make-up of the exam classes. In a majority of classes, the number of girls was lower than the number of boys completing primary school in most of the schools observed.

c. Literacy tests

Before the intervention (Time 1), the literacy test was administered to a sample (the oldest three girls and three boys from each of six year-groups) in each of the five intervention schools and in the five schools in Comparison Group 1(M1) and the five in Comparison Group 2 (M2). This provided a sample of 36 children in each of 15 schools. The same literacy test was administered after the intervention (Time 2) to the same children in the

intervention and comparison schools. This was repeated at six-month follow-up (Time 3) for the intervention schools only.

In Table 12.3, the mean literacy test scores for all five schools in each of the three groups are shown for Time 1 testing (the baseline) and Time 2 testing (end of intervention).

The results from M1 5 at Time 1 appeared surprisingly high (mean score 43.5, compared with the next highest in the group of 34.0). On further inquiry, it was discovered that the supervisor had been called out during the test and the person who had taken over had helped some of the students. The literacy test results from this whole school from both Time 1 and Time 2 were therefore disregarded. This resulted in a reduced number of comparison schools for this component but nine remained. In addition, at Time 2, in each school there was some student absenteeism; the Time 1 scores for those children who were not present for the Time 2 test were deleted from all of the calculations. This, of necessity, resulted in a reduction of sample sizes from the original 36 children tested at Time 1 to between 28 in Y4 and 31 in Y1. This was also the range with M1 schools. In M2 schools the reduction was marginally larger, ranging from 26-29. Therefore, a potential source of bias could have been introduced because of the removal of M1 5, and because of the attrition due to student absenteeism.

At Time 3, which was relevant only to Project Y schools who had participated in the intervention, there was a more surprising finding: all children who had been present in the intervention schools at Times 1 and 2 were in school at Time 3. There was therefore no reduction or change in the sample size between Time 2 and Time 3.

Calculations from Table 12.3 reveal that the difference in mean literacy test scores between Project Y and M1 in the baseline (Time 1) was only 6.2% in favour of M1, whereas the difference in mean baseline scores was 11.2% between Project Y and M2 in favour of Project Y. Two-Sample t-tests assuming unequal variances were used to further explore the differences between the comparison groups and the intervention group – see Appendix 12.B.

Table 12.3 Mean Literacy Test Scores at Time 1 and Time 2 for Intervention and Comparison Schools

		<i>Mean Time 1 score</i>	<i>Mean Time 2 score</i>
Project Y (Intervention Group)	Project Y 1 (N = 31)	28.7	51.5
	Project Y 2 (N = 29)	19.6	52.6
	Project Y 3 (N = 30)	22.5	50.5
	Project Y 4 (N = 28)	27.7	51.8
	Project Y 5 (N = 30)	26.3	51.0
	<i>Mean</i>	25.2 (s.d. = 17.0)	51.5 (s.d. = 14.7)
M1 (Comparison Group 1)	M1 1 (N = 28)	28.6	31.8
	M1 2 (N = 31)	34.0	32.4
	M1 3 (N = 29)	30.9	34.2
	M1 4 (N = 29)	31.8	38.0
	<i>Mean</i>	31.4 (s.d. = 11.5)	34.1 (s.d. = 15.3)
M2 (Comparison Group 2)	M2 1 (N = 26)	13.7	14.8
	M2 2 (N = 29)	13.3	13.8
	M2 3 (N = 29)	13.9	12.3
	M2 4 (N = 27)	14.6	15.3
	M2 5 (N = 27)	14.5	20
	<i>Mean</i>	14.0 (s.d. 8.8)	15.2 (s.d.10.6)

For Project Y and M1 groups of schools a t-test on the baseline scores showed a significant difference in favour of M1 ($t = -3.8$, d.f. = 261, $p = 0.001$). For Project Y and M2 schools a t-test on the baseline scores (showed a significant difference in favour of Project Y, ($t = 7.32$, d.f. = 233 $p = 0.001$). Equivalence was not possible but maintenance of two groups provided an opportunity for limited comparisons. (See Appendix 12.B)

These t-tests indicate a statistically significant difference between the Time 1 literacy scores in the Intervention group and each of the comparison groups, with Project Y having significantly higher scores than M1 comparison group and significantly lower than M2.

Based on data in table 12.3, an ANOVA regression test run on SPSS, comparing post-test (T2) scores in Project Y schools with post-test scores in M1 schools, taking pre-test (T1) scores into account, gave a Beta value (effect size) of 0.982 (with standardised confidence intervals of 0.73 and 1.23) and the same test comparing Y with M2 gave a Beta value of 0.992 (with

standardised confidence intervals of 0.56 to 1.27). (The calculations are shown in Appendices 12. E & F)

The effect size provides information to ‘*move beyond the simplistic ‘does it work or not?’ as Coe (2002) argued, ‘to the far more sophisticated ‘How well does it work in a range of contexts?’ “ (Coe, 2002 p1). The effect size here provides a figure which, with values of 0.982 and 0.992, indicates a positive impact on student outcomes in the intervention group. According to the Education Endowment Foundation toolkit measuring months of additional progress, +0.88 – 0.95 translates to an additional 11 months of progress in the intervention group of schools relative to the progress in the comparison group of schools (Education Endowment Foundation, 2017). An effect size of 0.982 or 0.992 represents a very large impact. While these results may seem promising, they can only be taken as indicative at this stage because the sample is small and random selection of intervention and comparison schools was impossible. This is also confirmed by the high confidence intervals.*

As noted in Chapter 9 p.148, the limited causal inference possible from the data emerging from this quasi-experiment means that any further analyses and can only be seen as exploratory.

Are there variations in the degrees of change across the five intervention schools?

Cautionary note about further analyses.

Time 1 scores of the intervention group schools were not a good predictor for either post-intervention scores or rates of improvement. Table 12.4 shows that the school with the lowest starting base achieved the greatest rate of improvement between pre and post intervention scores. The school with the highest starting base achieved the lowest rate of improvement. So, although no intervention school regressed (indicating there was no evidence of harm from the intervention) the impact of the intervention varied considerably with a difference of over 10% in gain rates between the schools with the highest and the lowest gains.

As noted in Chapter 9 (p.148) the use of change scores (i.e. differences between groups in the progress recorded) is contentious as explained by Hooper et al., (2018). Also, there could be a legitimate argument that the sample size was too small and the data insufficiently robust to justify use of t tests in comparing change scores. I justified my decision to carry out these and subsequent analyses on the grounds that: (i) the data did not warrant analysis

with more powerful tests; (ii) my aim was solely to explore the possibility of differences between groups of students, and between schools, that might possibly warrant further investigation in a larger project in the future.

Table 12.4 Mean pre-intervention, post-intervention & improvement for Project Y (Intervention) schools with schools in rising order of mean pre-intervention scores.

		<i>Mean Time 1 score</i>	<i>Mean Time 2 score</i>	<i>Mean change</i>
Project Y (Intervention Group)	Project Y 1 (N = 31)	28.7	51.5	22.8
	Project Y 2 (N = 29)	19.6	52.6	33.0
	Project Y 3 (N = 30)	22.5	50.5	28.0
	Project Y 4 (N = 28)	27.7	51.8	24.1
	Project Y 5 (N = 30)	26.3	51.0	24.7
	<i>Mean</i>	25.2 (s.d. = 17.0)	51.5 (s.d. = 14.7)	26.5 (s.d. = 12.3)

T-tests indicate that the difference in mean change was significant between Project Y 2 and Project Y 1, 3 and 5. No other differences in mean change were found to be significant. Bearing in mind, observations during visits to the schools, this was interesting. The head-teacher of Project Y 2 school was nearly due for retirement but after the same initial slow start as the others, he enthusiastically embraced the programme and led the others. Whereas some heads, notably from Project Y 1 and Y 4 did everything possible to avoid having their lessons observed, the head of Project Y2 asked to have his lessons observed at every opportunity. It was he who initiated the town-wide reading circle meetings. He was the quickest to acquire the rhetoric and the quickest to try and put theory into practice. It was, on the other hand, he who claimed to need more lesson observation forms in order to observe his colleagues. I am not claiming 100% compliance. I did observe a particular level of enthusiasm and willingness to role-model compliant behaviours which may have a relationship with his school's apparent increased rate of improvement. This suggests that compliance rather than the starting point was key to success.

Has there been any detectable difference in impact on girls' and boys' learning outcomes?

To understand more about the impact of the intervention, different sectors of the schools were examined. Comparisons were undertaken to try to understand if the intervention had been more or less impactful on different sections of the schools.

Table 12.5 compares the Time 1 scores for both boys and girls to understand any difference between them.

Table 12.5 - Mean pre-intervention (Time 1) scores for girls and boys in the intervention schools

	(Girls N)	Girls mean pre- test scores	(Boys N)	Boys mean pre-test scores
Project Y 1	15	31.73	16	25.88
Project Y 2	13	14.15	18	24.00
Project Y 3	15	24.40	15	20.60
Project Y 4	13	24.38	15	30.53
Project Y 5	15	27.00	15	25.60
Mean		24.6 (s.d. 16)		25.3 (s.d. 15.8)

A two-sample t-test Assuming Unequal Variances (See Appendix 12.C) gave a $t = -0.27$, d.f. = 145, $p = 0.79$. While acknowledging the limitations of the t-test in this case, these results and the comparison of means (24.6% vs 25.3%) seem to indicate no statistically significant difference between pre-intervention test scores in literacy between girls and boys in the intervention schools.

A further analysis was undertaken to examine the potential differences in mean gains between Times 1 and 2 in the girls' and boys' literacy scores in the intervention schools (see table 12.6). Table 12.6 shows that Project Y 2 school, the school with the greatest improvement overall, also saw the greatest improvement in mean girls' scores, having started with the lowest mean girls' scores at the baseline. Project Y 2 also saw the highest rate of improvement for the boys although Project Y 4 had the lowest mean baseline score for boys. There is variation between the different schools and whereas three schools had higher Time 1 mean scores for the girls than for the boys, the combined data did not show any statistically significant difference.

Table 12.6 - Mean Time 2 scores and mean improvement in girls scores, boys scores & the whole school scores

	Girls N	Girls Time 1 to Time 2 mean difference	Boys N	Boys Time 1 to Time 2 mean difference	Whole school N	Whole school time 1 to Time 2 mean difference
Project Y 1	15	20.27	16	25.06	31	22.8
Project Y 2	13	36.77	18	29.94	29	33.0
Project Y 3	15	28.53	15	27.47	30	28.0
Project Y 4	13	25.69	15	22.67	28	24.1
Project Y 5	15	26.13	15	23.20	30	24.7
Mean		27.3 (s.d. 12.6)		25.7 (s.d. 12.1)		26.5 (s.d. = 12.3)

A two-sample t-test Assuming Unequal Variances gave a $t = 0.8$, d.f. = 144, $p = 0.45$, indicating no statistically significant difference between improvements in literacy scores between girls and boys in the intervention schools. (See appendix 12.C)

Is there any difference in impact associated with the intervention across the different sections of the school?

To examine the possibility that the intervention is associated with different amounts of change at the top half of the school from the bottom half of the school, class 1 – 3 scores were compared with class 4 – 6 scores in the intervention schools. Simply comparing means indicated that the gains had been comparable across both sections of the schools with the lower school having a mean difference between Times 1 and 2 of 25.33% and the upper school students having a mean difference in scores between times 1 and 2 of 27.3% (a difference of less than 2%).

A two-sample t-test undertaken between the mean improvement in literacy scores between the Project Y classes 1 – 3 and classes 4 – 6 ($t = -0.96$, d.f. = 135, $p = 0.33$) suggesting that there was no statistically significant difference associated with the intervention in the older half of the school versus the younger half of the school. (See Appendix 12.D for the t-test.)

Was there any sustained impact of the intervention?

The literacy test was administered at Time 3 to the Project Y schools sample children. Time 3 was at the end of November 2018, six months after the close of the intervention. The test investigated any potential on-going improvement after the intervention. Table 12.7 shows continued improvements in mean literacy scores even though the six-month period included the two-month summer break. The donors had expressed a desire to continue the training support but had not agreed among themselves what form this would take so no support was provided to the schools after June 2018 except participation in one heads' meeting at the beginning of the new academic year. Table 12.7 shows the mean literacy scores at Times 1, 2 and 3 and the rate of change between Times 1 and 2 and between Times 2 and 3. This facilitates an understanding of the rate of reduction in impact of the intervention with time: Time 1 is month 0, Time 2 is month 12, Time 3 is month 18.

Table 12.7 - Mean literacy scores at Times 1, 2 & 3 and the mean differences between Times 1 & 2 and between Times 2 & 3

		<i>Mean Time 1 score</i>	<i>Mean Time 2 score</i>	<i>Mean change between Time 1 & Time 2</i>	<i>Mean Time 3 score</i>	<i>Mean change between Time 2 & Time 3</i>
Project Y (Intervention Group)	Project Y 1	28.7	51.5	22.7	58.6	7.2
	Project Y 2	19.6	52.6	33.0	57.1	4.5
	Project y 3	22.5	50.5	28.0	54.2	3.7
	Project Y 4	27.7	51.1	23.4	55.3	4.2
	Project Y 5	26.3	51.0	55.6	55.6	3.5
	<i>Mean</i>	25.2	51.5	26.2	56.2	4.7
	<i>s.d.</i>	4.0	0.8	4.3	1.7	5.4

Table 12.7 shows the mean rate of change in Project Y schools between Times 2 and 3 (4.7% for 1 term) which was higher than the mean rate of change between Times 1 and 2 (1.9% for 3 terms) in the comparison schools during the year the intervention was on-going. While the rate of change for the intervention schools in the six months after the intervention ended was substantially lower than the rate of change during the intervention, this comparison could be interpreted as indicating some limited on-going impact of the intervention.

Time 3 was towards the end of the first term of the school year subsequent to the intervention. If the progress were to be maintained in the following two terms it might be seen as modest but not insignificant evidence of the intervention having a continuing impact.

If, however, the reduction in the rate of change continued to reduce at the same rate for the rest of the academic year (i.e. the two terms following Time 3) by the end of the year there would be minimal evidence of on-going improvement. EducAid's support to Project Y schools restarted in January 2019, so it will not be possible to tell which would have actually happened.

It is important to note the precarious nature of the improvements. This aligns with other experiences as it does with the literature (D. H. Hargreaves, 2001). Specific strategies for sustainability were not put in place at the end of the intervention, in large part due to the anticipated continuation of the support but on reflection this is clearly a weakness of the intervention and additional strategies need to be tested to investigate in greater depth the possibility of achieving more sustained impact.

d. Attendance Records

Table 12.7 shows the attendance data collected from five intervention schools in Project Y, four comparison schools in M2 and four comparison schools in M1.

The data in all schools often required recalculating for accuracy but meaningful data could usually, with some discussions with the teachers and a calculator, be established. In two cases, however, the data were found to be unusable.

- 1 In M2 2 it was found that the figures for one class could not be confirmed. The register appeared to have been marked away from the class and the crossings out forced the team to conclude that the data were unreliable.
- 2 In M1 4 the class one register had clearly been completed all at one time at the end of term or possibly even at the end of the year. Thirteen weeks were completed for Term 1, in contrast with all the other teachers in the school who completed twelve weeks for term one. Furthermore, the two weeks of election break had been completed with children marked present and absent at random and had then been written over in large red letters: 'Election holiday'. The document could not be used for meaningful analysis. Further, the class six register had not been marked for two terms. Term one was completed and balanced but the register for both remaining terms was incomplete.

The data from both schools were discounted from the analysis.

Table 12.7 shows attendance data for intervention and comparison schools for the academic year before the intervention in Project Y (2016-2017) and the intervention year (2017-2018). In 2016/17, all three groups of schools had a mean rate of attendance only slightly over 50%, and although there was a little variation between the best attending schools and the worst attending schools in each group, there were none with outstanding performance. The Project Y schools prior to the intervention were previously in line with the Sierra Leonean 'tradition' of students and staff starting school two or even three weeks after the official government opening date.

After the intervention, the whole year attendance rates for M1 schools saw some improvements. No explanation was given for the improvement in M1 schools' attendance but there were nevertheless improvements across the board in these schools, with a mean improvement of 8.49%. This is, however, broadly in line with other minor improvements in

the M1 schools during the period between Time 1 and Time 2.

M2 schools did not fare so well. M2 1 improved by 10.8% but all the others had lower attendance rates in 2017/18 than in 2016/17. Again, this is broadly in line with other data collected in the M2 schools at Time 1 and Time 2.

Table 12:7 - Attendance rates for Intervention & Comparison schools for 2016/17 & 2017/18

Intervention Schools (Project Y)	Mean attendance 2016/17 (%)	Mean attendance 2017/18 (%)	Mean change in attendance rates between 2016/17 & 2017/18 (%)
Project Y 1	49.33	79.45	30.12
Project Y 2	60	75.05	15.05
Project Y 3	44	76	32
Project Y 4	55.5	75	19.5
Project Y 5	57.66	80	22.34
	52.21	76.38	24.17
Comparison Schools (M1)			
M1 1	57	70.46	13.46
M1 2	47	54.45	7.45
M1 4	56	64.3	8.3
M1 5	58.5	63.25	4.75
	54.63	63.12	8.49
Comparison Schools (M2)			
M2 1	45.6	56.43	10.83
M2 2	56.12	46	-10.12
M2 3	58.56	58	-0.56
M2 5	45	34.8	-10.2
	51.32	48.81	-2.51

The intervention schools showed improved rates of attendance. The least improved school was Project Y2 which had the highest attendance in 2016/17 (60%), but in 2017/18 was slightly lower (at 75.5%) than school Y3 which had the lowest attendance in 2016/17 (44%) and had improved to 76% in 2017/18. Project Y 2 went from the lowest to the highest mean scores in the literacy tests but went from the highest Time 1 attendance rate to the fourth highest attendance rate at Time 2. The Project Y2 head was a lead figure in the town-wide approaches to improving attendance but did not achieve the same rates of achievement as other schools. Project Y3 had a very disrupted year, being moved out of its normal premises by the land donors for two months so it might have been expected that their previously low levels of attendance would have been the hardest to raise. They made the greatest gains, however, despite the disruptions.

e. Discussions and conclusions

The NPSE results were not believed to be a credible reflection of students' performance as the lack of basic literacy and reading competence did not match with the proportion of pass rates shown both before and after the intervention periods. Lack of integrity in public exams is central to the problems facing education country-wide.

The NPSE results reveal the expected bias towards boys completing primary school more often than girls: the exam classes often have a higher proportion of boys than girls. This is in line with official statistics around girls' education and primary school completion rates.

Attendance rates in Sierra Leone are low and the intervention and comparison schools had figures in line with national norms at Time 1. The intervention schools saw improved attendance rates across the board and M1 schools also experienced smaller improvements.

Project Y schools are associated with higher mean improvements in literacy scores than both M1 and M2 schools. The effect sizes of 0.982 and 0.992 when comparing Project Y post-test scores with M1 and M2 are indicative of promise. Both the effect size and the higher mean literacy test change scores are promising but not definitive due to the relatively small sample size and lack of randomisation in sample selection. Pre-intervention scores of the intervention group schools were not a good predictor for either post-intervention scores or rates of improvement. The CPDL seemed to be positively effective for schools with a strong and a weak starting point but compliance levels had the greatest impact. There were different rates of improvement among the intervention schools, but none showed regression or progressed more slowly than the comparison schools, indicating no harm was done. All intervention group schools improved.

There was no statistically significant difference between initial baseline scores, post-intervention scores or rates of improvement between girls and boys or the top versus the bottom half of the school.

This chapter is the first of three results chapters and reviewed the impact data. The following chapter reviews process data from the EducAid training team and the participants to address the fifth aim of the thesis, that is, to understand the opportunities and challenges relating to delivering the project with a largely untrained and unqualified Sierra Leonean team.

Chapter 13 – Results (2)

Process data – Understanding the Training Team – Possibilities & Challenges

a. Introduction

Chapter 9 described the evaluation design as a quasi-experiment with intervention and comparison groups of schools, using a researcher-led approach and collecting both impact and process data. This chapter focuses on the fifth Aim of the thesis: *To identify problems and possibilities associated with well-motivated but largely untrained teachers delivering school improvement programmes, and collecting data for an evaluation, with only arms-length supervision from the Country Director.*

After reviewing data to address this aim, concerns for future iterations of the QEP are discussed.

b. The data base.

See Appendix 9 for the table showing the data collection points and types. The data informs two main concerns: (i) Which features of the training team facilitated effective delivery of the CPDL? and (ii) What lessons can be learned from the team's delivery of the CPDL?

Figure 13.1 Features of the training team that facilitated effective delivery of the CPDL

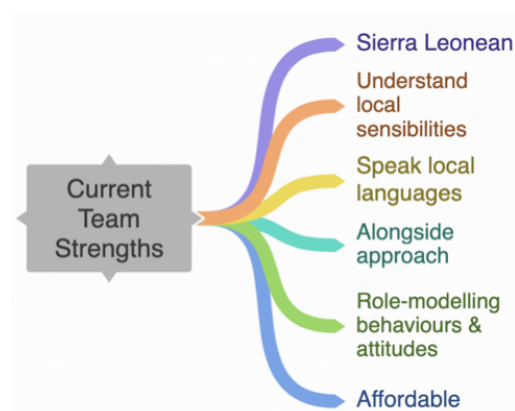


Figure 13.1 shows six areas of concern that emerged and are discussed in turn below.

Sierra Leonean Team

Three comments noted the nationality of the team.

Having a Sierra Leonean Team was important because this reduced the potential for cultural misconceptions and eased communication. Firstly, the language (or accent) barrier was less than occurs when foreigners unused to the context facilitate workshops. Secondly, the

participants more easily addressed concerns to the team either in person or by phone. The relationships were felt to be equal and friendly. One teacher said,

'They are Sierra Leoneans like us. It is easy for us to work together. This is for our country.'

And another explained,

'the free phone line is vital to the relationship between the heads and the EducAid Team to support strategies etc and to address issues. We talk easily together.'

Sierra Leone has a very tolerant society, but there can be an excessive respect that creates a distance when interacting with foreigners. EducAid wanted to avoid this and to demonstrate the capacity of Sierra Leoneans. Improvement can come from inside, challenging the all too common dependence (in post-independence Sierra Leone) on foreigners for aid and ideas. This is in the same spirit as the Umoja Arts Centre project in Tanzania described by Welch, (2012). Welch observed numerous programmes in Tanzania, run by foreigners that ended up being corrupt and inefficient. In contrast, she identified the Umoja Arts Centre project which was a local initiative with far stronger outcomes and with a very different ethos.

Understanding local sensibilities

[Four comments noted the team's ability to be culturally appropriate].

Culturally inappropriate aid is horribly common and while we might hope to avoid the sort of gross insensitivity cited by Lensu (2003) when Americans dropped teddy bears, hot-water bottles and pork sausages and beans in packages that resembled cluster-bomb packs into Somalia, being cautious in this is not only advisable but crucial. Having a Sierra Leonean team from the same cultural heritage as the beneficiaries facilitated an understanding of local sensibilities and for example helped with managing the initial workshop that was run throughout Ramadan. One teacher commented,

'...they prayed with us. That was somehow pleasing to us...'

When they needed to persuade the participants, they knew how to do so without seeming to disrespect or undermine them. One head-teacher said,

'We like working with you people. At first, we did not know what you wanted. Now, we know and we are pleased to see you correct us. You don't do it that bad way.'

Cajoling underpaid and poorly motivated teachers takes a certain skill. The team sought to build friendships that could be used to put to rest the initial wariness they met.

Speak local languages

Although there are 17 different Sierra Leonean languages, as noted in Chapter 8, half of the training team are Themne speakers as is the Project Y community. This was useful for meeting with the community and speaking to the younger children if there was a vocabulary failure when conducting focus group discussions (FGDs). One trainer noted, when talking about the children's FGD.

'We were going to be stuck. If we did not have Themne speakers with us – no way! We could not make them understand us.'

The scope for misunderstanding children's feedback is quite enormous with multiple languages being used – schools quite often have English, Krio and Themne in use – being able to cut through to the mother tongue can cut through any potential confusion.

'Alongside' not top-down approach

43 comments from head-teachers and teachers, focused on the importance of the visits and learning from the team being around, and from other heads, of which 5 comments highlight the importance of working alongside.

Having a Sierra Leonean team was important because trainers worked alongside teachers and heads rather than from the top down. Teachers and head-teachers spoke of feeling encouraged by the presence of the team. Whereas there was initial resistance and a feeling of being policed and monitored, it quickly dispersed (discussed further below). One teacher said,

'I feel safe with them now. I like them being around so we can learn together. We solve problems together and work things out.'

The training team had no authority to insist on change. A sense of fellow-travellers on a journey to improve Sierra Leone rather than of policing and being policed was crucial.

Being enabled to learn alongside other heads was also valued. One head said,

'It has helped me learn from other heads from other parts of Sierra Leone and improve my administrative skills.'

There was a sense of 'we are all in this together.' We can learn together, get frustrated together and share good ideas together. This approach learns from EducAid's own values and ways of thinking but also from Freire (1970) and Lockheed et al., (1991). Freire (1970) argued that educational provision coming from above will necessarily support the status quo of imbalanced and oppressive relationships. Lockheed et al., (1991) argued that top-down education improvement programmes have consistently failed but that 'school improvement

funds', working to support local initiatives appropriate to local contexts have been more successful in a number of contexts.

Role modelling behaviours and attitudes

Role-modelling as a key teaching strategy enabled the team to discuss their role-model and thus how important the teachers and head-teacher were as role-models for the children.

The role-modelling came in the form of male trainers dishing the food out to challenge gender stereotypes, to trainers standing at the doorway to start all training meetings, to using agreed expectations to govern all relationships in the project.

This approach supported the togetherness attitude but was also the best way to communicate an understanding of new ways of doing things. One trainer explained, *'...we respect them... we talk about it... we ask them 'Did you feel respected in that session? What made you feel respected? Can you do the same with your staff and your children?' We learn together and talk about how'*

Role-modelling at all levels is discussed in greater detail in Chapter 14.

Affordable

It is a difficult reality of aid that international experts cost a lot. The budget available for the project could not have afforded an international team. What might possibly have been gained in experience would have been lost because the programme would have been unable to afford the implementation stage

Being affordable also supports potential sustainability.

Figure 13.2 - Opportunities for improvement of the team's delivery of the CPDL

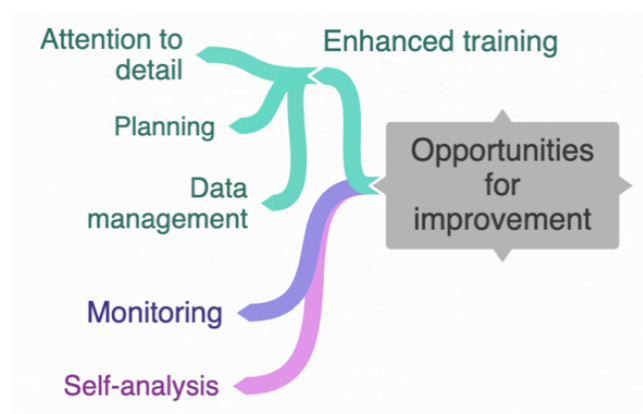


Figure 13.2 shows the key lessons that need to be learned from the training team's delivery of the CPDL. The first concern was the inadequacy of the training which in turn focuses around three issues.

Training

Attention to detail

The training that I provided did not ensure adequate understanding of keeping detailed records of observations, meetings, diaries, phone calls or even the qualitative aspects of the lesson observation forms. While the training had involved practice versions of each set of data, when they had come back inadequate, I had led discussions about what was expected and what was missing but I had not required them to be redone before going to the field. The team members were experienced and highly competent teachers. In retrospect, however, I under-estimated the challenges in moving to a new role of teacher trainer. Consequently, they did not understand the importance of detailed record keeping.

Planning

Better training and planning templates for the follow-up support would have enabled the team to structure their support better and to avoid last minute panic preparations for visits. This is discussed further in Chapter 14. This understanding is not gained from any participants' comments or other dataset but from my own observations of how the team worked. In retrospect, again, I needed to provide a tighter structure and give them more regular guidance as the CPDL progressed.

Data management

Data quality and management by the EducAid team were a concern. I underestimated the difficulties the team would encounter with collecting and storing data for easy retrieval. One trainer said,

'Data collection – records are not well kept in the schools, although there has been some significant improvement in trying to get data we need, with the new cooperative attitude.... And...Data management – from our side too, it has been challenging to get the whole team to realise the importance of data management.'

The training required for handling data were underestimated. I will need to design much simpler techniques in future. For future iterations of the project, there are already discussions about using Kobo Toolbox or Google Forms²³ which would simplify collection, storage, retrieval and analysis. These forms would not address issues such as sufficient

²³ Kobo Toolbox and Google Forms are apps designed for data collection on mobile phones usable in remote and hard to access areas.

detail in notes and reports on the lesson observations, phone call records and diaries. That is a training matter and also requires attention.

Monitoring and data collection.

In addition to training, adequate monitoring was also an issue. Due to a multiplicity of responsibilities and a failure to better structure my monitoring of the team, and therefore the quality of the data collection in time to remedy it, the quality of the data did not reach the standard I had hoped for. My focus was on the intervention and the quality of the intervention and in future CPDL I will need to monitor the evaluation component more closely.

Self-analysis

On the one hand, as project manager and lead researcher I bear the responsibility for any weaknesses in design and monitoring. On the other hand, had the team been more self-analytical, they might have asked for help and questioned the purpose of their records. That, however, is essentially a training matter.

One trainer did identify weakness in data management (see above). Of all the elements, though, that were not implemented, no trainer blamed themselves for the failure. They resembled schools and teachers who glow with pride when a class does well in exams and blames the stupidity of the children when they don't do so well. Pre-course training in future should place more emphasis on modelling more self-critical practice and develop this through closer monitoring and support in the implementation phase.

c. Implications for future programs

Future programmes will need to take note of mediating approaches and key elements that have appeared to make the greatest difference to changes in teacher and leader attitude and behaviour as well as what has had most impact on children's outcomes.

With more robust training focusing on (i) better understanding of each training session, data collection and support action; (ii) clearer structures for planning, record-keeping and reporting; and (iii) self-analysis and self-review, the team can become stronger. Continuing with a Sierra Leonean team with good local contextual knowledge but providing stronger training and support will facilitate stronger versions of the programme to be delivered and evaluated.

d. Conclusions

The fifth Aim of this thesis is to understand the opportunities and challenges associated with having a Sierra Leonean team that have not all been formally trained as teachers themselves. The limitations identified were in my support and training of the team not in the team themselves. These are remediable problems. More positively, considerable advantages were found in having a local team. The advantages more than counterbalanced the limitations arising from lack of international experience and exposure.

The next chapter reviews information from the same dataset in order to gain a view on participants' and trainers' views of what went well and not so well in the intervention.

Chapter 14 – Results (3)

Process data – Participants' & Trainers' Perspectives on the Programme

a. Introduction

This chapter focuses on the sixth aim of the thesis: *To throw light on aspects of the programme that the teachers, pupils and other stakeholders experienced as strengths and weaknesses of the programme.* The chapter explores perspectives from both participants and trainers on what worked well and what did not work well in the QEP, followed by a final section on deductions from the lesson observation data. Chapters 13 and 14 both explore the same data set but answer different questions.

b. The data base.

To gain as close to 360-feedback as possible, head-teachers, teachers, students, parents and community groups were involved. (Refer to Table 9.1 for the types of data collected and the times at which they were collected).

While it might be more normal to treat such datasets separately, they were combined for the analysis because (i) the 360-feedback approach led to a large amount of data being collected, and (ii) this approach allowed me to draw out the main points without over-encumbering the thesis. It was impractical to analyse all the data in detail, but it was possible to gain an overview of perspectives and key themes, which was the purpose. In practice, information gathered at Times 1a and 1b as well as phone call records were only used to inform on-going decisions about how best to support implementation of learning and not to inform the research. Qualitative data collected at Time 2 is used to inform the data reported in this chapter as well as my own observations of the interactions throughout the intervention period. The interview and FGD data were analysed using NVivo 12 for Mac. The process is described in detail in Chapter 9.

c. Tensions experienced in delivering the CPDL programme

There were a few tensions experienced during the delivery of the programme. This section first reviews these tensions and discusses how they were addressed, setting the scene for further analysis of the process data to understand how various aspects of the programme were experienced by the participants and trainers.

Corporal Punishment

On the one hand, the Project Y community and schools were warm and welcoming in the initial meetings during which we established agreed expectations for each group of stakeholders: parents, teachers, students and the EducAid team. On the other hand, there was considerable concern expressed by all about getting rid of corporal punishment. Teachers and community leaders cited examples of indiscipline whereby youngsters in other communities had lost respect for their elders through the softening of discipline. Few believed removal of the cane could result in anything other than chaos.

In the Evaluation Workshop, in Activity 1b, one teacher admitted,

I was one person who thought it would not succeed but I was proved wrong.'

The programme in itself was accepted, but the teachers were far from convinced this was something worth targeting.

Heads' initial low engagement

The heads had a certain resistance to any change in behaviour, additional workload or accountability to the team when the programme started. This manifested itself by (i) in the initial two-week workshop, heads not seeming to want to be seen as equal participants alongside their colleague teachers; (ii) a tendency to come and go from some sessions as if they were above such things; (iii) a refusal by some heads to have their lessons observed; (iv) an initial failure to engage with the weekly phone-calls and (v) non-completion of diaries.

At first, the heads were reluctant to commit themselves to whole training sessions. Other staff used this as an excuse to arrive late, leave early or absent themselves. When the team returned at the beginning of the following term, and the schools were in disarray, there was embarrassment and resistance to suggestions for change. The heads found excuses for not calling or receiving calls. There was no evidence of intention to implement any new ideas. There was no direct hostility, just evasion. One trainer said,

'They would always say initially that they are busy. Then the network was poor at times. Now a schedule has made a difference. So they go to a place where there is good network so, as a result, it is improving.'

One trainer explained,

'Initially, for example, W... would be so difficult to see when we came to visit. He would not stay in the room for whole trainings. He would leave meetings when he had a chance.'

This attitude largely dissipated after visiting EducAid but was a source of tension and a particularly unhelpful role-model to the other staff in the early stages. The diaries were never completed meaningfully.

Late preparation on the part of the trainers

Each term, the team visited the Project Y schools with a clear agenda of tasks to be undertaken, mini-workshops to run and meetings to hold. On each occasion, the team would be in a last-minute scramble preparing materials, waiting for each other or somebody else to do the thinking and the work. This reflects a broader problem in the Sierra Leonean workforce. These attitudes are raised in nationwide discussions around Sierra Leoneans' unemployability (as well as the unemployment situation). Grow Salone's²⁴ recent survey found that 100% of employers consulted were dissatisfied with employee performance and efficiency. The ability to manage time and prioritise tasks ranked in the top three skill areas urgently needing improvement.

Nothing special was added to the programme to address these issues but there was an increased emphasis on already planned features to address the first two. Role-modelling respect provided a framework that teachers could use to relate to the children and each other. The 'rhino' session, explained in Appendix 8, jarred many teachers out of their unquestioning support for corporal and humiliating punishment with its illustration that students need to feel safe and respected in order to learn effectively.

Further activities are in place to support the development of the training team too.

d. What worked well?

Themes emerging from the NVivo-assisted analysis were grouped into two sub-headings: (i) what worked well and (ii) what did not work so well. The mind-map in Figure 14.1 shows four main groups of themes and how they inter-relate:

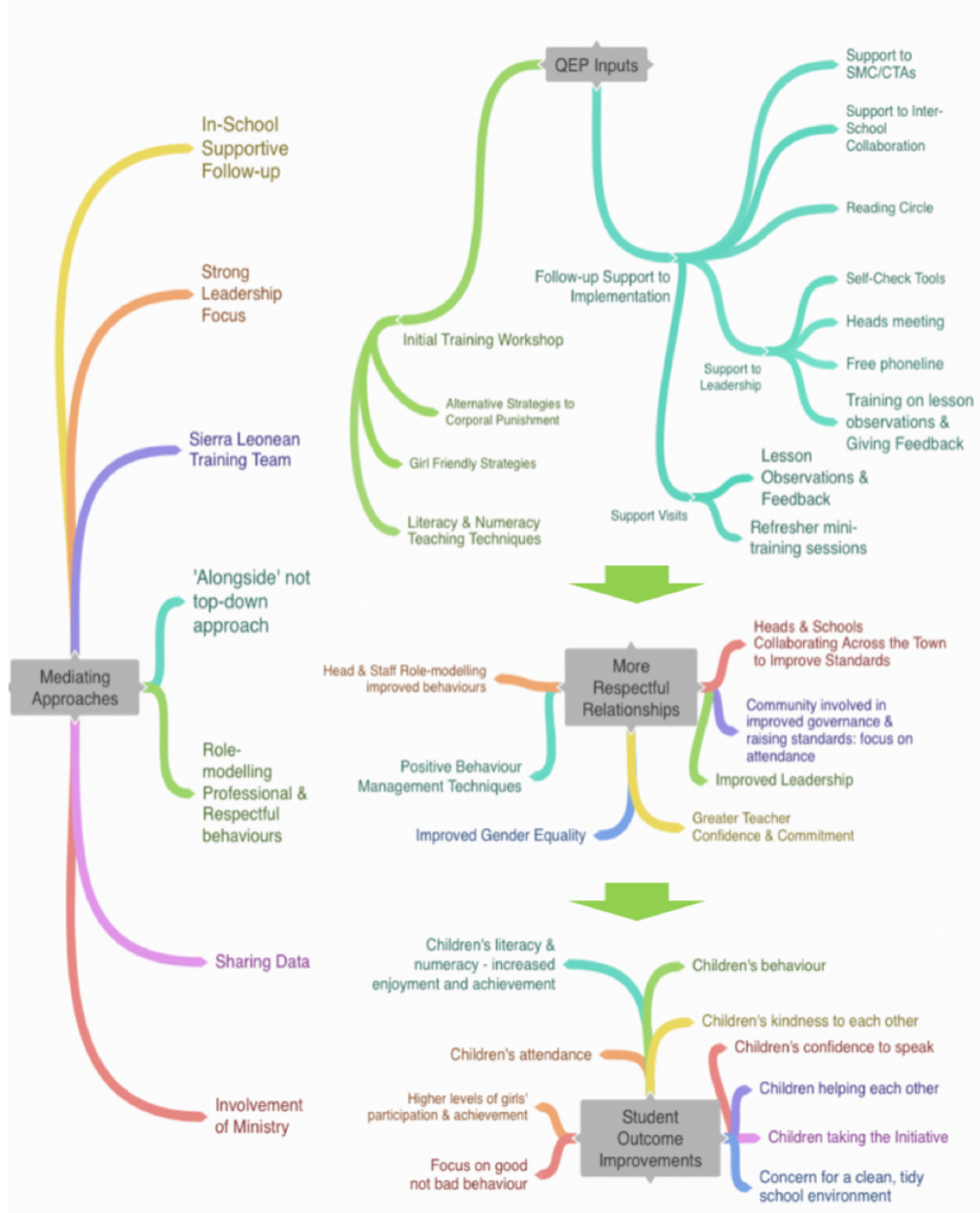
- *The QEP Inputs* with some key
- *Mediating Approaches* that resulted in

²⁴Grow Salone, (2019) provides incubation services for Sierra Leonean businesses.

- *More Respectful Relationships* that were seen as contributing to
- *Student Outcome Improvements*

The text discusses each group of comments in turn. Each branch reflects at least one informant's response. Because some data were collected from focus groups, it is impossible to indicate numbers of individuals associated with each theme. Where possible in the text, the numbers are clarified.

Figure 14.5 - Mind-map showing the key themes emerging from the comments about what in the programme worked well



QEP Inputs

Figure 14.6 - Mind-map showing the key themes emerging from the comments about the QEP inputs

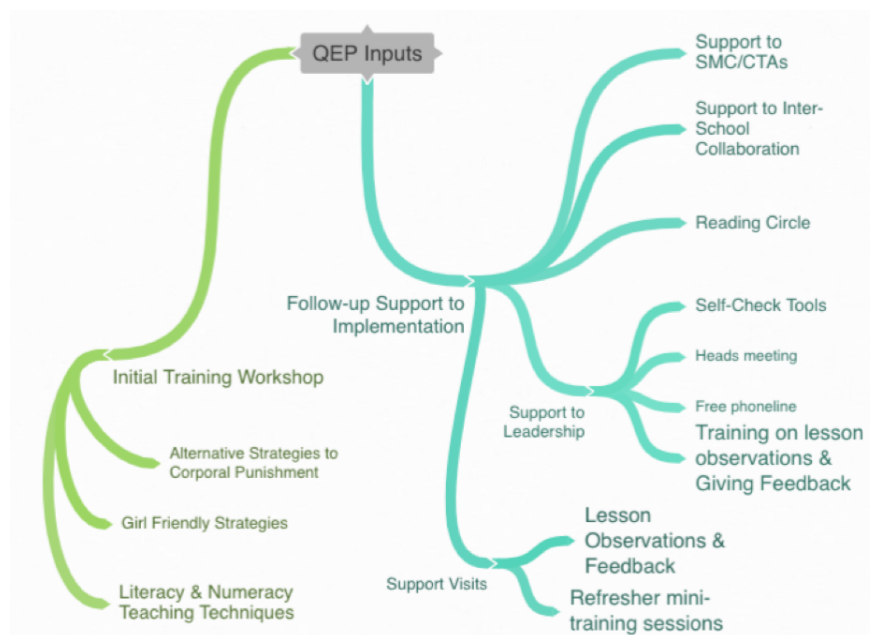


Figure 14.2 shows the mind-map of themes emerging about QEP inputs perceived as working well. The two main inputs were the initial training workshop and the follow-up support during implementation.

Initial Training Workshop

The initial training workshop was the first significant engagement after the Time 1 data collection. It consisted of two intensive weeks: one literacy and one numeracy. The training sessions took place in the afternoons and the teachers taught the following mornings, creating the opportunity for teachers to try things out immediately. The trainers found this helpful, one saying,

‘During the initial trainings, it was encouraging because straight away people were trying to implement, for example, trying to do group work, trying to teach the phonics sounds etc. We encouraged them strongly to try these things out and to come and talk about it the next day in the workshop.’

Teachers explained how previous workshops they had attended had had little practical focus. The immediate enjoyment of trying out simple ideas had been lost. One teacher explained,

‘at college and in other workshops we talk about things but this is the first - where I practice what I have learned in the workshop, before I go next day in class and then discuss with the trainer straight away. This makes it practical and I like it.’

The trainers reported a willingness of at least some teachers to try out new techniques and an enjoyment of EducAid's practical way of training.

Most significance in the initial training workshop was attributed to training in alternative behaviour management strategies, girl-friendly approaches and techniques for teaching literacy and numeracy. These are discussed in greater detail below as the input and the outcome changes were always linked in the comments.

Support to Implementation

Supporting implementation throughout the intervention period included follow-up visits during which the team observed lessons, gave focused feedback and provided mini refresher training sessions. The teachers reported finding the visits valuable although most comments lacked detail. One teacher said,

'The visits are very important for our continuous improvement as they often open our eyes on new things any time they are around.'

Participating teachers were enthusiastic about the visits. Examples of the perceived benefits are explored in later comments.

Mediating Approaches

Figure 14.7 - Mind-map showing the key themes emerging from the comments about the mediating approaches

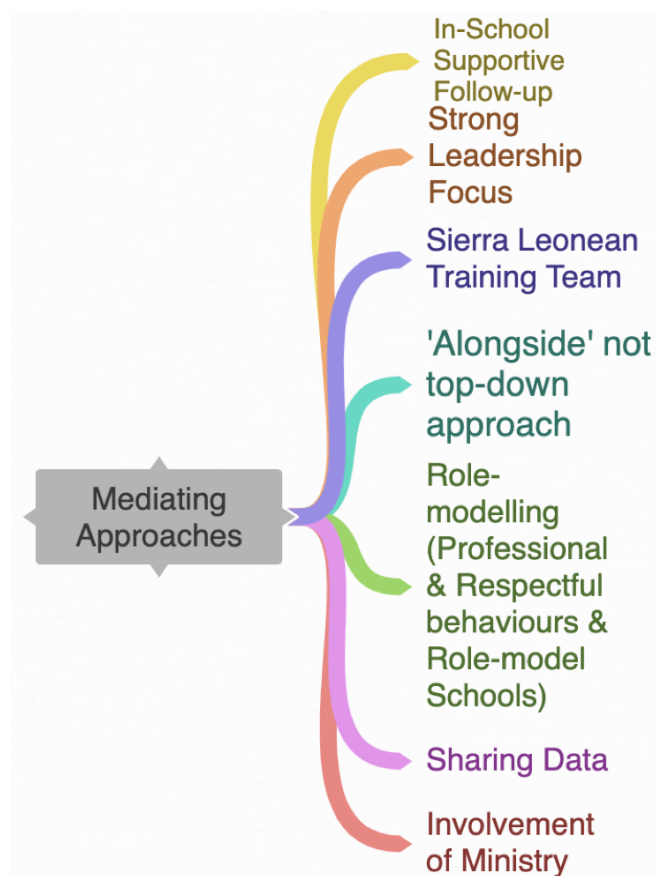


Figure 14.3 shows what can be characterised as the approaches behind the intervention that are identified as mediating change:

In-school supportive follow-up

Thirteen comments focused on the importance of follow-up after the initial workshop. The on-going support given to schools is described in Chapter 8. This was not just one of a range of possible options but a key strategy and approach, learning from good teaching practice, other training experiences and from the CPDL literature (Coe, 2013; Cordingley, 2015a). One trainer expressed it,

'Not all of the staff really implement everything that is suggested so it is necessary to follow-up a lot when we go and visit. Sometimes, we spend extra time going over things again with them and sometimes we link them with teachers that are doing it well.'

Another trainer explained,

'When we came to visit the Project Y schools in September, the teachers and even the heads were shocked. They did not expect to see us and they did not even know they should be in school at the beginning of the term. It is like a tradition in Sierra Leone for teachers and children to come back to school very slowly. They normally start school in the third week and just mess around for the first couple of weeks. They did not expect us to follow up.'

One head-teacher corroborated saying,

'If you had not come back and followed-up, the workshop was for nothing and wasted. That training was nice but by September we forgot about it.'

The CPDL literature is clear that in-school follow-up to any training session is necessary (Cordingley, 2015a) and the experience in this research confirmed this. The importance of on-going support was acknowledged by trainers and school leaders.

Strong Leadership Focus

Twenty-seven comments focused on improved leadership from teachers and head-teachers. Fifteen focused on the importance of the free phone line (CUG) and 17 focused on the heads' meeting.

Effective school improvement must be head-teacher led and without this, the probability of impact is small. The head-teacher is in the school every day. The training team are not. Momentum for change needs a driver and nobody else has the necessary authority.

Comments indicated how important change in the heads' behaviour had been in supporting other change. One trainer reported the heads' own comments on their own changes and the importance of this, saying,

'According to M..., the delegation has reduced his workload. A... says it is easier to manage situations now because they cooperate so much better. They are all working as a team now.

Before it was difficult. The head could not get his staff to work together but much better now (sic). The teachers are much readier to cooperate. There is a different attitude towards each other. There is a readiness that did not exist before. Their change has made other changes happen too. The heads show more respect. The staff feel more respected and now step up.'

Several other comments from the heads expressed willingness to continue taking the lead specifically for improvement.

Sierra Leonean Training Team

Three comments noted the nationality of the team.

Having a Sierra Leonean Team was important because this reduced the potential for cultural misconceptions and eased communication. Firstly, the language (or accent) barrier was less than occurs when foreigners facilitate workshops. Secondly, the participants more easily addressed concerns to the team either in person or by phone. The relationships were ultimately felt to be equal and friendly. One teacher said,

'They are Sierra Leoneans like us. It is easy for us to work together. This is for our country.'

As noted in Chapter 13, Sierra Leone has a very tolerant society, but excessive respect can create distance when interacting with foreigners. EducAid wanted to avoid this and to demonstrate the capacity of Sierra Leoneans. Improvement can come from inside, challenging the all too common dependence (in post-independence Sierra Leone) on foreigners for aid and ideas. This is in the same spirit as the Umoja Arts Centre (UAC) project in Tanzania described by Welch, (2012). Welch found that the majority of the projects of which she was aware in Tanzania tended to be corrupt and inefficient unlike the locally driven UAC.

'Alongside' not top-down approach

43 comments from head-teachers and teachers, focused on the importance of the visits and learning from the team being around, and from other heads, of which 5 comments highlight the importance of working alongside.

A Sierra Leonean team was important because trainers worked alongside teachers and heads rather than from the top down. Teachers and head-teachers ultimately spoke of feeling encouraged by the presence of the team. Whereas there was initial resistance and a feeling of being policed and monitored, it dispersed with time. One teacher said,

'I feel safe with them now. I like them being around so we can learn together.

We solve problems together and work things out.'

The training team had no authority to insist on change. A sense of fellow-travellers on a journey to improve Sierra Leone rather than feeling policed was crucial.

Being enabled to learn alongside other heads was also valued. One head said,

'It has helped me learn from other heads from other parts of Sierra Leone and improve my administrative skills.'

This approach learns from EducAid's own values and ways of thinking but also from Freire (1970) and Lockheed et al., (1991). Freire (1970) argued that educational provision coming from above will necessarily support the status quo of imbalanced and oppressive relationships. Lockheed et al., (1991) argued that top-down education improvement programmes have consistently failed but that supporting local initiatives appropriate to local contexts has been more successful in a number of contexts.

Role-modelling (professional and respectful behaviours & role-model schools)

Three comments focused on the team role-modelling behaviours and three comments focused on the importance of visiting the EducAid school as a role-model.

The EducAid team worked to role-model desirable behaviours: punctuality, professionalism and respect. This was often discussed with the participants. One trainer spoke about the meetings held in Project Y schools saying,

'The meetings in ...Y.. were good - holding each other to account so the heads and staff will address each other. We and they were actively role-modelling the agreed expectations. This made it easier for us as facilitators e.g. if somebody left the class without permission. We discussed how this same way can work with the children.'

An additional component was visiting the EducAid schools to see different ways of working in action.

Separately, in the report the Project Y head-teachers sent to their sponsors after their first visit to the EducAid schools, they stated,

'The reason for our visit to EducAid is we need quality education, a strong foundation for our primary schools and we need our pupils to be well taught to build a better Sierra Leone to drive poverty among families. We visited the EducAid schools and liked lots of the things we saw. We learned about so many things.'

The point was made. It is easier to learn through observation and imitation than through lectures. The heads themselves started talking too about role-modelling better behaviours to their staff and students. Giving examples and modelling are key teaching methods in the classroom but are often neglected in teacher-training, particularly in low-income countries (Coe, 2013; Lunenberg, Korthagen, & Swennen, 2007). This is particularly useful when the practice or behaviour is foreign or unusual. It is impossible to target behaviours one cannot imagine.

Sharing Data & Thinking

Seven comments focused on issues around sharing thinking and information as part of the intervention.

Strategies, thinking, data collection tools and findings were shared with the participants whenever possible. There can be a tendency by CPDL providers, in line with much top-down aid and much old-school teaching, to give information on a 'need-to-know-only' basis. At every stage, the team endeavoured to incorporate 'meta-cognition' into their teaching, explaining the thinking behind teaching strategies, sharing data collection tools such as the lesson observation tool, establishing mutually agreed expectations with everyone including the training team before the project started (as explained in Chapter 8). Discussing the lesson observation tool, one head said,

'It has helped me and my teachers, as I now know what I expect of my teachers and they also know what is expected of them.'

This was no longer guesswork. He knew what he was supposed to be doing and how to support the teachers too.

In the heads' meetings, data were shared about the improvements on a few indicators including staff and student attendance and girls' retention in the pilot study schools. These

data were found to motivate the other schools. Nobody wanted the success to bypass them. One head said,

‘When we saw what the other schools were doing, it made us determined. we wanted to get better. We didn’t really understand ‘til we looked at the other schools. They were getting better. We wanted to be like them. It made us feel proud when we could share our attendance data with them later too. We were the best next term.’

For active learning, a knowledge of the learning path is necessary (Bonwell & Eison, 1991). Constructivist theory emphasises the need to build knowledge and understanding out of practical experiences (Bransford, Brown, Cocking, Donovan, & Pellegrino, 1999). Learning from role-models, practising target skills, self-reflection are all parts of active learning.

Involvement of Ministry

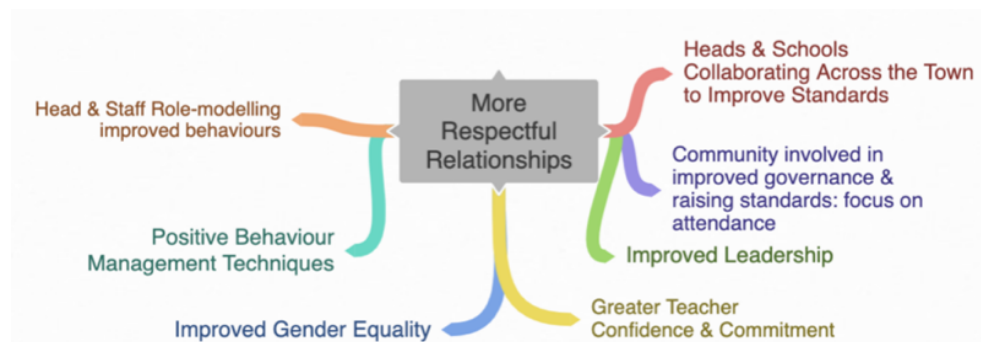
Fifteen comments focused on the relationship with the Ministry. Working with the permission of the Ministry and whatever involvement they can offer consolidates success. Without Ministry authorisation one can find oneself in conflict. The Ministry were involved from the outset, selecting the comparison group schools and facilitating conversations with schools so the team could collect data and conduct literacy tests. Ministry representatives were unable to attend the workshops but were aware from the side-lines of what was going on, and in informal conversations reported noticing changes when they visited schools. The Ministry’s involvement was also very important to the heads, one of whom said,

‘My school is now seen, by the Ministry, as an example of good practice.’

The Deputy Director of Education for the district has requested an extension of the project, now that he has seen some improvements in the Project Y schools.

More Respectful Relationships

Figure 14.8 - Mind-map showing the key themes emerging from comments about more respectful relationships



These inputs and mediating approaches were perceived as facilitating the development of more respectful relationships across the school communities. The discussions highlighted

seven main ways in which relationships had become more respectful. Figure 14.4 shows these key themes.

Head and staff role-modelling improved behaviours

Seven comments focused on the heads and staff role-modelling good behaviour. Role-modelling therefore became an approach and an outcome. Role-modelling is commented on by three heads with respect to attendance, punctuality and time management as well as in terms of their relationships with one another. One head, in Evaluation Workshop Activity 2 claimed,

'The students and teachers are now more collaborative than competitive. We as heads, we collaborate more, in order to role model the sort of behaviour we want among them.'

One trainer said,

'The punctuality of heads and staff – before they were not respecting time so the student attendance had a big problem. Now attendance has improved.'

As teachers and head-teachers improved their own punctuality, students followed suit. Just as when teachers claimed to role model good behaviour, the head-teachers realised the importance of leading by example.

Positive behaviour management techniques

Sixty-nine comments focused on improved behaviour, with 18 referencing the abolition of the cane and 40 focusing on the new strategies.

Ending corporal punishment was often referenced. The Sierra Leonean constitution still permits corporal punishment (Global Initiative to End All Corporal Punishment of Children, 2014) although the teachers' code of conduct prohibits it (MEST, 2009). Most teachers have never been taught alternative behaviour management strategies, and strongly believe in the adage 'spare the rod and spoil the child.'

The initial fear when the abolition of corporal punishment was proposed turned, in one year, to pride in improved relationships, attendance and behaviour and the consequent improved academic progress. Teachers were taught how to negotiate whole class agreed expectations, setting standards for all members, including what the children could expect from the teacher. The teachers saw benefits quickly, to their own surprise.

In Evaluation Workshop Activity 5, six teachers said their most significant change was the quality of relationships when new collaborative and respectful approaches were used. Three mentioned improved relationships. One mentioned nobody left behind. Two mentioned no more corporal punishment. One teacher explained,

'I used to use the cane a lot but now I have completely left it to use positive behaviour management. This is important for me, because my relationship with my students is now cordial which is transferring into high performance in their output.'

In corroboration, one trainer said,

'There was so much beating and use of the cane in all schools before but now it has stopped. Instead, the teachers have been taught and are teaching respect, so the children are now holding each other to account. Also, teachers are giving them the opportunity to take an active part in decision-making about behaviour management.'

In line with the pilot programme results, the most enthusiastic cane users had stopped and now used more respectful means of managing behaviour. All Project Y teachers claimed to have stopped caning, as did heads and, more importantly, the children confirmed this - even when away from their teachers.

One boy said,

'Whenever we come to school late the teachers used to hit us with canes but now they will talk and they advise us to stop. They were really beating us for anything at first but that has stopped. They have paper canes now, as pointers, not to beat us. When a particular student misbehaves the teachers will tell the student to stand before the class and apologise or they will ask them to go out for a few minutes. This was not happening before.'

One head confirms his own complete change of heart on the matter, saying,

'There are no canes now. Before, when I said I am going to give you six cuts, they will be a solid six cuts. Nothing would change me so there was a fear between the students and the teacher. But now there is a cordial relationship. The fear has gone. While they are doing the punishment, I must give them coaching words. 'Look at your friends. All of them are outside. You need to stop doing this or that or you cannot join them next time. Then they must see reason. We thought it was going to be chaos but, no! The behaviour is not worse. Even, now, we are the preachers at

home. There is a difference even at home. We tell the parents no more canes at home too.'

Corroboration came from both the teachers' ability to suggest alternative ways of managing behaviour, and also the children and parents showing consciousness of improvements in behaviour when their teachers abandoned corporal punishment. One parent said,

'In school they were beating heavily especially the girls, but since they have gone through your training they have stopped, and the children are improving.'

On the one hand, EducAid could not be everywhere all the time and could not guarantee a 100% change; on the other, initially nobody would contemplate running their classrooms without a cane. The schools are not fully democratic and progress is needed in other aspects but progress in respecting human rights seems real.

Improved Gender Equality

Five comments focused on improved gender equality and three of 22 teachers in the Evaluation Workshop identified improved gender equality as their most significant change.

The concept of gender equality was a source of almost bemusement when initially introduced in Project Y. Previous NGO sensitisation programmes had taught people the language but not required the implementation of specific girl-friendly strategies. After the intervention, there was pride in new initiatives and all groups of beneficiaries were aware of practical changes. One head-teacher identified improved equality as their most significant change (Evaluation Workshop Activity 5) and said,

'I selected equality improvement because, this has helped to improve my student's class participation, since I adopted this training experience both boys and girls are now competing in answering questions during my lesson. It has also helped the girls to see themselves as leading tools not to be left behind and I am proud of them now.'

Interwoven among other activities, discussions and sessions, gender-equality appeared regularly in the programme. The impact of the approach is discussed in greater detail below.

*Improved Relationship between the School and the School Management
Committee (SMC) & Community Teachers Association (CTA) & thus the community*

Forty-seven informant comments focused on improved SMC/CTA interactions and 23 on improved community collaboration.

There was 100% acclaim from heads, teachers and parents for the SMC workshop. Comments on the impact of this approach are discussed below.

Greater teacher professionalism, confidence and commitment

Twenty-one informant comments focused on improved teacher professionalism and confidence. Teaching in Sierra Leone is often seen as a 'waiting-room' job to be undertaken by anybody with mastery of the alphabet until they can get a 'proper job.' Teacher pay is low and professional motivation is also low (Nishimuko, 2007). Teachers and head-teachers commented on their new attitudes that were indicative of an increased willingness to be professional. One teacher said,

'I am now willing to receive criticism as it will help me grow.'

His comments indicated an awareness of 'growing' being both his responsibility and an acknowledged need. Openness to critical feedback indicated both increased confidence and commitment.

One head-teacher said,

*'I see my involvement in the school as a great tool to bring the change I want to see.
I want to see the school next year at the apex.'*

This head indicated willingness to lead the school improvement. His comment suggested a commitment to bringing this about.

- *Improved leadership*

Twenty-seven comments related to improved leadership and support by the head to their staff. Strong school leadership is crucial to active implementation of learning. Cordingley, (2015) and Robinson, (2007) name modelling and investing in CPDL as the most important leadership activity correlating positively to student outcomes. The EducAid team learned that even if individual enthusiastic teachers wanted to participate, without the head-teacher's commitment meaningful in-school change was unlikely. One change in leadership behaviour was increased monitoring of staff.

One head-teacher said,

'The teachers: I know they should teach five subjects per day and I am normally checking. In terms of my teachers' performance and behaviour management, I always check their classes and work with them to improve.'

Monitoring and supporting the other teachers was a common theme in the intervention. One head-teacher said that he made use of the lesson observation tool commenting,

'I do on the spot checks on my teachers when they are teaching. The other way again is the use of the QEP lesson observation tool in my school. I now check them with it.'

With growing leadership consciousness came a growing awareness of the need for more support and training in leadership. One head said,

'There are areas I wish to improve. If the training continues, I need more training on the skills of leadership. The more I train, the more I learn.'

Initially, staff meetings only occurred once per term and other communication between heads and their colleagues was haphazard and uncoordinated. The heads tended to operate independently, and their headship existed in issuing occasional commands, representing the school at district level and little else. Two teachers acknowledged the improved communication from their heads. In Evaluation Workshop Activity 1b, one said, *'Our head is communicating effectively now with us.'*

When seen alongside other comments about improved relationships and professional support, it appeared that both quantity and quality of communication had improved. Talking of lesson observations, one teacher said,

'The head now knows how to treat us.'

This invited the question of how they were treated before but at least there is acknowledged progress. For example, in the Evaluation Workshop Activity 1b one head said,

'I now praise and encourage my teachers to do good work.'

Three teachers commented on their head's new ability to delegate. The EducAid team found elsewhere too that delegation is rare as heads maintain their powerbase by controlling all information. Learning to delegate recurred often in the heads' meetings. One teacher rather tellingly said of their head, in Evaluation Workshop Activity 2,

'She was full of temper but now she is not. Now she also delegates her responsibilities.'

Authority became more based on the head taking responsibility for situations rather than through anger and dominance.

- *Community involved in improved governance and raising standards*

Twenty-one comments focused on improved community involvement in raising standards.

After the SMC / CTA workshop, head-teachers and teachers described a significant change in community support. One head-teacher, in Evaluation Workshop Activity 1b, said:

'The SMC members now regularly visit the school to ensure things are going well.'

The teachers also confirmed this, for example one said,

'I am now seeing cordial relationship between the school and the community.

The SMC is now very active in performing their duties.'

For two trainers, the first change they commented on was community participation levels. A short input resulted in one of the most significant changes in school running. One trainer said,

'The SMC training resulted in a big change in parents' engagement. Before the parents were saying their roles were unknown to them but when we held the SMC training, that was the first time they had ever found out about their roles. The teachers and the parents are now collaborating on controlling behaviour, improving attendance, refusing teenage pregnancy and marriage etc. for example, the parent body has decided to start putting a stop to these things. During our last visit, the SMCs of all the schools took a man to the chief and managed to stop a marriage of an underage girl from one of the schools.'

In a rural township such as this, communities can operate powerfully when working together. Involving parent and community bodies in day-to-day school affairs appeared to have been important. The workshop specifically addressed protecting girls' rights to stay in school through one scenario discussion. This quickly resulted in preventing an early marriage, unwittingly echoing work done in England, engaging parents and communities in actions to reduce teenage pregnancy (Cullen, Davis, Davis, & Lindsay, 2010) and exemplifying willingness to take up their responsibilities.

The community themselves recognised a change. All the parents in the SMC Focus Group

Discussion (FGD) started visiting their schools regularly. One explained,

'At first the heads were hiding things from us and we do not know our value in the school. But since that training I know the value I have now in the school. I am now contributing in the school process. I am the one that painted my school.'

SMCs and parents were involved in supervision of staff and students and in practical activities supporting the smooth-running of the school. When a parent is willing to organise (and possibly fund – that point is unclear) painting the school or other such activities, this reduces the head's burden substantially.

- *Heads and schools collaborating across the town to improve standards*

Sixteen informant comments focused on inter-school collaboration & across town collaboration. At the end of a term of low-level resistance and minimum engagement with the education team, the Project Y heads visited EducAid and joined the group of approximately 100 heads of schools (from the pilot project) who met twice a term. Seeing the EducAid schools and finding themselves part of a bigger motivated group enabled them to engage differently. On their return home, the inter-school collaboration started. As one trainer expressed it,

'When the Project Y heads started coming to the heads' meeting that was a change point. When they came to visit EducAid, after that they really started to try and implement the things that they had learned. Their attitude changed at that point. It was as if they had seen the light. Before, they did not know they were part of something bigger. They seemed to be very encouraged to find other heads of schools trying to make the same changes and some of them in very difficult remote schools, even more than theirs.'

Previously, the schools were competitors, but in weekly meetings they started discussing issues and worked to overcome common challenges. They recognised this as a big change.

One teacher said,

'There are very good relationships between each other in our schools and between the town schools too. This is new. We did not work together before.'

Another head-teacher said on this issue,

‘One important change is the relationships between staff and heads – especially the teacher reading circle wherein we read and then share ideas so that with the competency that I do not have, you can give me a better idea. We meet every week.’

The two unregistered community schools in the town were brought into the support network and weekly meetings even though they had not participated formally in the QEP. With the whole-town cooperation on attendance, punctuality and even improved teaching habits, the heads requested the inclusion of the community schools in any further CPDL from EducAid.

Improved Student Outcomes

The QEP inputs, mediated by key approaches appeared to lead to more respectful relationships across the school community. This made school feel safer for all involved and there appear to have been consequent improvements in a range of student outcomes.

Figure 14.5 - Mind-map showing the key themes emerging from comments about Student Outcome Improvements

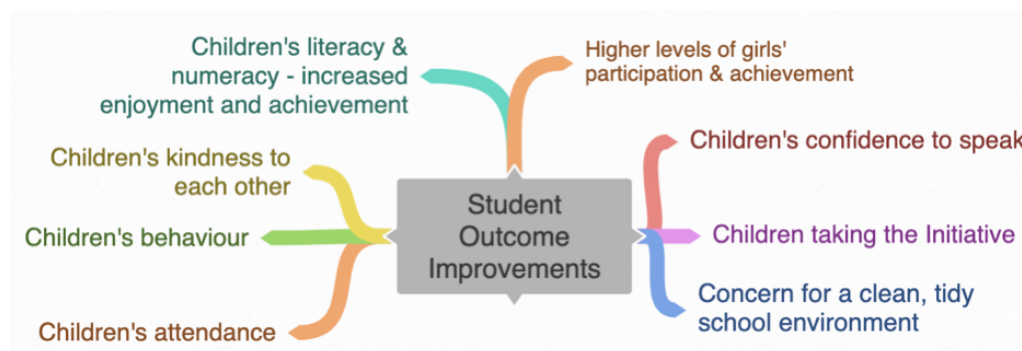


Figure 14.5 shows the key areas of improvement student outcome that were identified. The overall aims of school improvement are for students to achieve greater cognitive and social competence. The data from informant interviews suggest improvement in a range of areas: cognitive and non-cognitive.

- Children’s attendance

Forty-seven comments mentioned improved attendance. The mean children’s attendance in Project Y schools was a little over 50% at Time 1 (Table 12.7, p.183) and this was similar to the control schools. This had improved to a mean of 76.38% in Project Y schools at Time 2 (see Chapter 12). One trainer said,

‘Attendance and punctuality have improved a lot. Especially in the first week of term, there has been a massive improvement because they are all working together on the issue, particularly to get students back into school in the first week of term.’

Increased teaching time creates the possibility for increased progress and some teachers commented not only on their own improved attendance and punctuality, but also improved student attendance and punctuality. One teacher attributed the improvement in attendance and punctuality to the emphasis in the CPDL on positive behaviour management.

'The students are now attending well as a result of the introduction of the positive behaviour management.'

Others saw the improvement in attendance and punctuality resulting from whole school approaches involving all stakeholders,

'Because of the active role of the SMC the children are really attending now.'

Others concluded that it was due to the improved relationships in the school,

'because of the friendliness in the school now the children are punctual in school.'

In Evaluation Workshop Activity 2, several teachers reported improved attendance due to their own improved teaching methods,

'The interesting methods I use to teach with now are helping my children to be in school every day.'

Another said,

'I am now punctual in school, so the children are also.'

The likelihood is that all these teachers' views at least partially contributed to improved attendance. There are many factors, reflecting the increased professionalism of the staff resulting in an increased sense of responsibility and enthusiasm among the students.

- Children's behaviour

There were 69 comments about improved behaviour. These mostly address improved behaviour management so are discussed in detail above.

Fears that no cane would lead to indiscipline had been real. All relevant comments indicated that fears had not been realised and behaviour had improved, contrary to expectation.

One teacher said,

'Behaviour is now managed. Teachers are no more using the cane. This has helped positively now. The students trust their teachers.'

Children's improved attendance and behaviour are all important social developments. To learn the value of time and of responsible and socially acceptable behaviour are important aspects of school learning.

- Children's kindness to each other – Ubuntu

15 informants spoke about the uptake of Ubuntu ideas and 17 about increased kindness among the children. In the Evaluation Workshop Activity 1b one said,

'Students are now showing more concern for their colleagues.'

And

'The Ubuntu time has been transformational in behaviour change in my school. Students are now starting to care more about each other.'

Ubuntu and kindness had infiltrated the children's rhetoric and expectations for normal behaviour in Project Y schools. One year before, neither kindness nor empathy were part of the daily school conversation.

- Children taking the initiative & taking responsibility

Sixteen informants commented on children taking the initiative and taking increased responsibility for themselves, and their colleagues. In line with more respectful ways of working, including the agreed expectations and ending use of the cane, it was noted by one trainer that,

'The head boys and girls are now taking responsibility for each other and going around and advising others about their behaviour. This too has helped the teachers not to use the cane anymore.'

Some teachers attributed these changes to conversations about helping each other and to the agreed expectations. One teacher, (in Evaluation Workshop Activity 1b) specifically commented about the agreed expectations, that...

'It has helped the students take leadership responsibilities.'

Children took increasing initiative when treated more respectfully.

- Children's literacy & numeracy – increased enjoyment and achievement

Forty-seven comments focused on improved literacy. All 22 teachers in the Evaluation Workshop claimed that maths games had improved the enjoyment of and performance in maths. Eleven comments focused on increased student participation in class and enjoyment of learning. The trainers all noted improved student literacy as borne out by the outcome data (see Chapter 12). They spoke of improvements in the children's speaking, reading and writing. Many more lessons were being conducted in English than at the beginning of the project and the trainers noted the resultant improvements in the students' spoken English. One trainer said,

'Literacy has improved. When we do lesson observations, we go class to class to see teachers and students. Reading is improving now in comparison to last year. Writing was a big problem, but it is now 'up there'. Now even the lower learners can write their own sounds and words. They are using the daily sentence practice in the schools. They call it morning coffee. Every day when they come, it is the first thing they consider. They are really pleased with it because it is really improving the children's writing ability. We hope they continue as it is helping a lot,'

The trainers' comments tallied with the literacy test outcome data which show improvement in literacy scores in all Project Y schools, in contrast with the general lack of improvement in the comparison schools. Strategies were introduced to support independent writing (see Chapter 8 for the detail)

One teacher said,

'Before this time our children will mix the punctuation in their work but from your training our children can now do basic punctuation.'

Another said,

'Through your training, our children can do spellings now.'

Another said,

'The beginning and ending sentence and daily sentence practice methods have helped greatly in all the schools.'

There was no universal adoption of any strategy but sentence practice appeared easier for some teachers to try, with success..

As the children generally speak Themne at home and Krio to non-Themne speakers, they are often uncomfortable speaking in English, their third language. English is Sierra Leone's official language, however, and the language in which they are examined. The majority of lessons observed in Project Y were conducted in English by the end of the year. As noted by one of the children,

'We used to speak vernacular but now we speak English in school and also at home.'

To be able to speak English confidently was a source of pride for the children²⁵. It was noteworthy that they wanted to take their English-speaking home. All groups of beneficiaries seemed conscious of improvements in English use, both spoken and written. Another strategy to support teacher and student literacy development was the reading circle. One teacher referred to it and its support to literacy improvement saying, *'Like in terms of the reading circle introduction in the school which has helped greatly in the English speaking in the school for the staff and students. And students have also improved in their literacy.pupils can now read and write far better than before..'*

Comments about academic progress all focused on literacy and numeracy. Most spoke about improvements due to using basic phonics techniques, whereby students could sound out and build their own words, or the sentence practice techniques. In Evaluation Workshop Activity 1b, one teacher said,

'My students are now writing sentences on their own.'

The children's ability to generate their own words and sentences was important from the very first interactions in Project Y. Rote learning and unthinking copying are so common (Gbamanja, 2012) that techniques supporting independent writing are important.

Anecdotal evidence suggests that fear of maths is common among teachers and students in Sierra Leone and the EducAid team's experience of the Y Project schools confirmed this general view. During the Evaluation Workshop, many teachers claimed that progress in maths had occurred. One teacher said,

'they fear maths no more.'

²⁵ I acknowledge the potential political minefield of enforcing the use of the ex-colonial master's language but, to tackle this is to tackle the entire education system within the country – well beyond the remit of this one-year intervention.

The universal eradication of fear is unlikely but it appeared that “gamifying” some maths lessons had helped displace the fear. Learning in an enjoyable context brings greater chance of success as explained by Giannakos, (2013), who, although he focused on computer games, argued that ignoring the importance of enjoyment of learning is a serious mistake.

- Higher levels of girls’ participation and achievement

43 comments focus on improvement in girls’ achievement. Gender equality was key throughout the intervention. Many participants mentioned improvements in this regard.

One trainer said about the girls in the FGDs at Time 2,

‘The girls were also bold enough to talk and speak out and answer questions whereas the last time we had a meeting with the students, really only the boys were answering. We were very surprised at how much change there was.’

The difference was noted by the trainers and beneficiaries. One head said,

‘We did an election here which included both boys and girls. This has never happened before.’

The students also acknowledged change in how teachers support their improvement. One girl said,

‘Our teacher will always encourage us to learn now. He will bring different ways to ensure we all learn.’

Teachers were proud of progress and new strategies bearing fruit. There were promising signs in all the schools as the heads encouraged each other by sharing good practice.

There appeared to be a conscious effort to improve gender equality within the schools.

There was not always clarity on the detail, but it was part of the rhetoric used in discussing progress and improvements in all the Y Project schools as a desirable target.

- Concern for a clean, tidy school environment

During early visits, all the Project Y school compounds were uncared for. Rubbish was everywhere in and outside the classrooms. Classrooms had piles of abandoned broken furniture at the back and cobwebs and half detached posters as decoration. This started to change and informants commented on the improvements. One student said,

‘I want to see my school compound very clean. To do that we have to come together and be cleaning it.’

One trainer noted,

‘There is greater care of the school environment in all of the schools now. They are much cleaner. They have started to take care of that.’

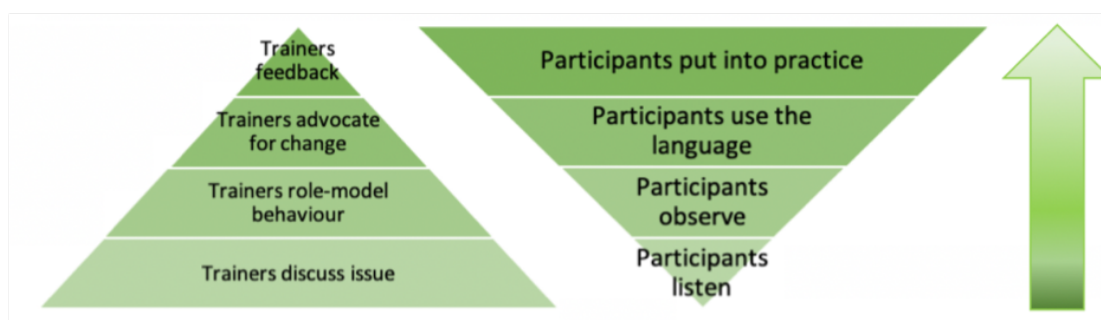
There is little awareness of environmental management in general, or in schools, in Sierra Leone, but it is a constant preoccupation in EducAid schools. As a component of an effective school (Rutter. et al, 1979) a greater awareness in the Project Y schools of the importance of an ordered environment was regarded positively.

This section has reviewed all the aspects of the intervention that are perceived by the participants and the trainers to have gone well. The following section reviews the same data set to gain an understanding of what did not work so well.

e. Cautionary comments about the validity of the data

The above comments should be taken with a care to the fact that the informants were on a journey that is illustrated in Figure 14.6:

Figure 14.6- The participants journey when exposed to new ideas and practices



Many teachers started acquiring a language to discuss new ideas and approaches and were working on how to put them into practice. There was movement in thinking even if full implementation was unachieved. This was reflected in a number of areas, including the ability to talk about gender equality, literacy improvement and children taking responsibility. With increased understanding of what should be happening came a concern to exaggerate progress beyond what was seen during school visits. As a substantial proportion of the lesson observations showed uneven uptake of key QEP ideas and strategies, the comments above need to be taken in context. There was little willingness to acknowledge any weakness or failure to implement the programme, in particular if the teachers understood what was actually expected.

Many of the claims with regards to the girls' participation and achievement were stark and for that, all the less credible. More nuanced statements acknowledge incomplete progress, showing better understanding. A teacher stating,

'Equality is now seen everywhere in our school.' or

'The boys are also creating an equal platform for girls to succeed.'

is less convincing than a more measured claim that,

'Girls are now taking some leadership responsibilities within the school.'

Or,

'The behaviour of some of our girls is now better than before.'

f. What did not work so well?

Giving bad news or negative feedback tends to be counter-cultural in Sierra Leone, to the extent, for example, that doctors do not tell dying patients or their families that they are dying. To get direct critical feedback on the intervention was very difficult, therefore. Tensions between the team and the participant teachers and head-teachers are first discussed and in a further section, understanding about unachieved aims and inadequately achieved aims deduced from the informants' comments are reviewed.

Unachieved Aims

Figure 14.7 - Mind-map showing the key themes emerging about what did not work so well - unachieved aims

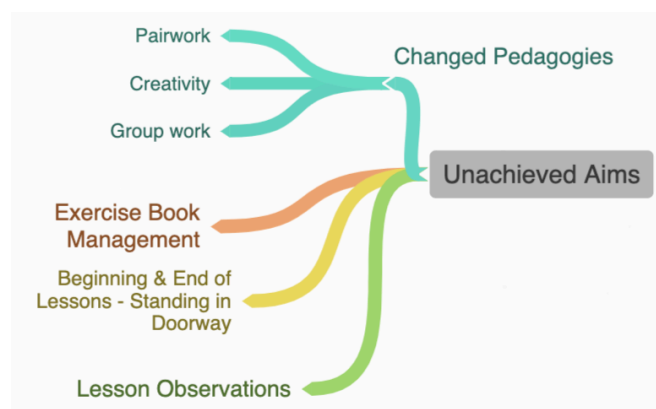


Figure 14.7 shows the elements identified in the interviews and FGDs as not achieved. They include the failure to (i) have meaningfully changed pedagogies, providing opportunities for collaboration, inquiry and creativity in lessons, (ii) mark exercise books; (iii) begin and end lessons well; (iv) undertake lesson observations. Only minimal comments about these elements and their implementation failure were given. Nobody wanted to give bad news.

Heads should have observed lessons of each member of staff and teachers were also encouraged to observe each other.

One head-teacher said,

'To be honest, I only observe when EducAid are there. We don't do it when you are not there. We need more copies of the lesson observation tool. It is useful, but we need more copies.'

Each teacher received one copy and head-teachers received enough copies for two observations per staff-member. The EducAid team were sceptical about the need for more. They felt that other strategies were needed to ensure uptake. This was one rare example of an admission of failure to implement a strategy that the head-teacher knew was expected of him. Further discussion did not elucidate what else would have helped him.

One headteacher claimed that teachers were standing in doorways to start lessons in his school but no trainers ever saw it. They were clear,

'The least impactful is the standing in doorway – they just didn't do it.'

While this practice seems quite simple, it is actually quite hard. It has the potential to cause conflict between head and teachers, if the head-teacher insists on it before there is sufficient staff buy-in. This is a very visible and therefore very accountable thing to do. The head, other teachers and children can see who is complying and who is not. Success would depend on considerable staff discussion.

Furthermore, no teacher managed to introduce creativity into their lessons. Theoretical discussions for more creative classrooms were enthusiastic but nobody implemented ideas from the discussions. One trainer commented,

'...on the creativity there is space for improvement.'

Evaluation Workshop comments showed no understanding of what creativity in the classroom would look like. In response to the question, 'What has changed in your classroom with regards creativity instead of rote-learning?' comments included,

'Our students are now working in our absence as well as when we are there.'

And

'Our class is very active and creative.'

The statements meant nothing and the lesson observations corroborated this. Providing opportunities in the classroom to develop creativity is difficult. The training sessions were insufficiently practical for the team to bring them to life in their follow-up visits and conversations.

Partially or Inadequately Achieved Aims

Elements identified as only partially or inadequately achieved include those in Figure 14.8.

Children asking questions

Children asking questions is relatively unusual in traditional Sierra Leonean classrooms. Questions can be perceived as disrespectful. Through discussing the importance of an atmosphere where children can feel free to ask questions, it was hoped to challenge this perception. One trainer reported having seen more interactive lessons including children

Figure 14.8 - Mind-map showing the key themes emerging about what did not work so well - partially or inadequately achieved aims



asking questions. He said,

...before this time they just had very teacher centred teaching e.g. before the teachers were just telling children but now there are more questions from them. Now, they are giving them books to read and then they ask them to explain and it is much more interactive - kids are enjoying it. Before they were not giving them the opportunity to do any research or ask for any feedback on their understanding and share the ideas they have got. Before, it was just the teachers telling them, telling them.'

However, neither of the other trainers noted observing this and the lesson observations reported below did not find it widespread.

Nobody Left Behind / Collaboration over Competition

Ideas focusing on 'Nobody Left Behind' encouraging teachers to set the children tasks requiring collaboration rather than competition were also very incompletely implemented.

While one teacher claimed,

'The school is now more collaborative than before.'

Another said,

'This needs more training for better understanding of the implementation process.'

To turn around classroom or whole school practice to focus on achieving together rather than fighting to be the best, constitutes quite a social gear-shift. The CPDL was insufficiently practical to support this change.

Growth Mindset Approaches

Growth Mindset Approaches, too, were at best unevenly implemented. Some teachers were found to be speaking differently to children, encouraging them in new ways to persist when stuck and not to fear mistakes.

One teacher said,

'Growth mindset has helped me to think differently about the ability of my students' ability.'

But another teacher said,

'It sounds interesting but I don't know about it. I need to be trained.'

One of the trainers drew his own conclusions, and said,

'because in this country many people are not used to doing new things, they did not try it.'

Even after the training, they said they needed more explanation – quite a lot of teachers did not even try it.'

In practice, these two components of the programme were introduced in the heads meeting, to be taken back to their schools. It seems the ideas lost something in translation if they were ever taken back at all. For stronger implementation, different mechanisms would be used and follow-up would need to be stronger.

QEP Checklist

The lesson observation sheet and the QEP checklist were two QEP monitoring tools mentioned as useful with the heads' newly recognised leadership responsibilities. After

discussions among all the heads, a checklist was developed to help heads monitor their school's progress. One head said,

'The structure I use for monitoring teacher performance here is the QEP teachers' checklist and it has been helpful.'

Another said,

'I watch lesson notes and do lesson plan checking and also I am checking teachers using the QEP checklist.'

This indicates the tool is known as a means to focus monitoring. In retrospect, this should have been in place from the beginning. In future iterations of the QEP, this checklist and the SMC/CTA checklist would align and be shared as target success criteria from very early in the programme.

Heads leading improvement in schools

Each head-teacher needs to lead improvement in their own school. Lack of day-to-day support for the leadership was concerning. In part due to travel costs and EducAid not having a permanent presence on the ground, the head-teacher was too isolated when trying to lead change. Support from each other mitigated this but as noted above with a number of strategies, they simply did not take the message to the schools after their visits to EducAid so proposed changes stopped with them. One of the trainers said,

'Heads have not all been sharing what they have learned in detail back to their schools, particularly Project Y 3 and Project Y 5.'

He went on to say,

'We need to simplify the take-home messages for the head.'

The assumption that the head would be able to cascade some of the more complicated new ideas was unrealistic.

Quality of the Data & Quality of the Data Management

Data quality and management by the EducAid team were a concern. I underestimated the difficulties the team would encounter with collecting and storing data for easy retrieval.

One trainer said,

'Data collection – records are not well kept in the schools, although there has been some significant improvement in trying to get data we need, with the

new cooperative attitude.... And...Data management – from our side too, it has been challenging to get the whole team to realise the importance of data management.'

The training required for handling data were underestimated. I would need to design much simpler techniques in future. For future iterations of the project, discussions have already started about using Kobo Toolbox or Google forms (See footnote 21, P189) which would simplify collection, storage, retrieval and analysis. It would not address issues of insufficient detail as in the lesson observations, phone call records and diaries. This is a training issue.

Unwillingness to offend means few will readily criticise. A few comments have been gleaned and deduced from the data. The implications are discussed in greater detail in Chapters 15 and 16.

g. EducAid trainers' lesson observations

As described in Chapter 9, some elements of the lesson observations were quantifiable. Other lessons observed during the implementation period were used to inform on-going support needs but not the pre and post-test analysis. Table 14.1 shows the numbers of lessons observed at each data collection point in each group of schools.

Table 14.1 - Schedule for lesson observation data collection in Project Y, M1 and M2 schools

<i>Type of data collection</i>	<i>June 2017 (Time 1)</i>	<i>June – Aug 2018 (Time 2)</i>
Lesson observations with all teachers and head-teachers	36 – Project Y 45 – M1 27 – M2	30 – Project Y 25 – M1 19 – M2

Calculations compared the Time 1 and 2 percentages for each group of schools for each element to observe any patterns of change. (Overview tables are in Appendix 14. A, B C & D)

These percentage differences provide a quasi-objective measure of change. They also indicated which aspects of pedagogical practice may have changed. The elements are grouped into three categories: (i) Those which may have been affected by the national school improvement initiative²⁶; (ii) Those giving tentative indication of positive change in

²⁶ Before the QEP training took place, there was a nationwide provision of lesson plan manuals (LPMs) for Language Arts and Mathematics for all primary classes. All intervention and comparison schools received the same training and manuals. All schools had an equal opportunity to access these lesson plans.

Project Y schools and (iii) Those with evidence of lack of progress in Project Y schools. Table 14.2 shows how the elements are categorised. They are discussed in greater detail below. The sections below discuss the results for each group of elements and compare changes between lesson observations at Times 1 and 2 for each group of schools.

Table 14.2 - Elements from the lesson observations which were potentially affected by a national school improvement initiative, by the intervention in Project Y and not affected by the intervention

<i>Elements which may have been affected by the national school improvement initiative.</i>	<i>Elements giving tentative indication of positive change in Project Y schools</i>	<i>Elements showing no change in Project Y schools</i>
<ul style="list-style-type: none"> • Was there a lesson plan? • Was there a clear introduction to the lesson? • Were the aims of the lesson written on the board? • Was the board prepared before the students came into the class? • Were the students busy and on task throughout the class period? 	<ul style="list-style-type: none"> • Was English used by teacher and students throughout? • Were there participatory activities used during the lesson? • Was the register taken? • Were the students asked to give feedback on what they had learned? • Were the students given a reinforcement homework task? 	<ul style="list-style-type: none"> • Were the exercise books marked? • Were there clear standards maintained for the exercise books? • Did you see the students working in small groups? • Did you see the students helping or supporting each other? • Did you see students asking questions during the class? • Was the subject content accurately taught? • Was there a clear end to the lesson? • Did you see the teacher rewarding good behaviour or good work?

Elements which may have been affected by the national school improvement Lesson Plan Manual (LPM) initiative.

Tables showing the percentages of each element believed to have been affected in all groups of schools by the Lesson Plan Manual national initiative are shown in Appendix 14.F. The highlights are that (i) Having a lesson plan appeared to have increased in both Project Y and M1 schools and less so in M2 schools; (ii) Having an introduction to the lesson increased in Project Y and M1 schools but less so in Project Y schools than in M1 schools and much less so in M2 schools; (iii) Having lesson aims on the board increased substantially in Project Y schools but not in M1 or M2 schools, although it might have been expected to have increased across the board as the practice was encouraged in the LPM initiative; (iv) Having the board ready before students enter the class increased by approximately the same amount in Project Y and M1 schools but decreased in M2 schools and (v) Students being

engaged throughout the lesson increased in both Project Y and M1 schools and to a lesser degree in M2.

I conclude that only in the case of having lesson aims on the board, a visible and not too complicated behaviour change, did Project Y schools improve substantially more than in the comparison schools.

Elements giving tentative indication of positive change in Project Y schools

Some elements appear to indicate some positive change in Project Y schools and may therefore be associated with the intervention.

Was English used by teacher and students throughout?

Table 14.3 – showing % of lessons observed in each group of schools in which English was used throughout the lesson

Was English used by teacher and students throughout?		Y Project Intervention Schools		M1 Comparison Schools		M2 Comparison Schools	
Time 1	(% marked Yes)	(n = 36)	27.00%	(n = 45)	60.00%	(n = 27)	42.30%
Time 2	(% marked Yes)	(n = 30)	83.30%	(n = 25)	88.00%	(n = 19)	47.40%
% Change between Time 1 and Time 2		56.30%		28.00%		5.10%	

Table 14.3 shows the percentage of lessons observed in each group of schools in which English was used throughout the lesson. Early discussions with Project Y teachers indicated incredulity that teaching all the time in English was possible. M1 schools had improvements over the year and ended up at a higher rate of English use as per the lesson observations (going from 60% at Time 1 to 88% at Time 2) but Project Y schools improved more and from a lower base. At Time 1 in Project Y schools, and 14 % were using a mixture with mostly English²⁷. In only 3% of cases, no attempt was made.

M1 is on the main highway and less remote than the Project Y schools, whose town is at the crossroads of some very bad cross-country roads. The impact on language use is that there are fewer foreigners needing to use English to communicate near the Project Y schools. There are also fewer non-Themne speakers so even the need to speak Krio²⁸ is reduced. It is not therefore surprising that, in the more exposed community, there was greater willingness to use English as the medium of classroom communication.

²⁷ These data are only given in the text to avoid encumbering the table.

²⁸ Krio is a pidgin English with other local languages mixed in. It has some English vocabulary in it but its grammatical constructions are completely different from English. Krio is the lingua franca and is used to communicate between tribal groups. There are 17 different tribes and languages in Sierra Leone. A Themne speaking to a Mende will use Krio, as will a Fullah speaking to a Kissi or a Limba.

Were participatory activities used during the lesson?

Table 14.4 – showing % of lessons observed in each group of schools in which there were participatory activities

Were there participatory activities used during the lesson?		Y Project Intervention Schools		M1 Comparison Schools		M2 Comparison Schools	
Time 1	(% marked Yes)	(n = 36)	13.50%	(n = 45)	4.40%	(n = 27)	0.00%
Time 2	(% marked Yes)	(n = 30)	56.70%	(n = 25)	0.00%	(n = 19)	0.00%
% Change between Time 1 and Time 2			43.20%		4.40%		0.00%

Table 14.4 shows the percentage of lessons observed in each group of schools in which there were participatory activities. Comparing interview rhetoric with lesson observation data in Project Y schools after the intervention, indicates ongoing misapprehensions about what participatory activities are. Lesson observation notes indicated that Time 1 lessons almost always had a teacher talking, then writing on the board and then sitting watching as children copied. Time 2 lessons in Project Y schools had children coming to the board, explaining in their own words and sometimes working in groups. This is more interactive but hardly fully participatory. Sometimes children work in groups but often the groups are too large for many children to be actively engaged. Typically, students watch while one pupil works. There are no examples of all students being engaged on tasks other than copying from the board. In Project Y schools, at Time 2, $\frac{17}{30}$ lessons included participatory activities where all students were, at least for part of the lesson, engaged in something other than copying or listening. Too much real learning time was lost where students observed others or passively listened (or not) to the teacher. Along with protecting teacher-student contact time, this is a crucial area for change.

Participatory activities are foreign to the comparison schools. M1 schools went from 4% of Time 1 lessons having participatory activities to 0% in Time 2 lessons, whereas M2 schools had 0% of lessons with participatory activities at Times 1 and 2. It is therefore maybe less surprising that there has only been a 43% increase in the Project Y school lessons as even this seems to represent a significant culture change. The LPM initiative seems to have had some impact on M1 schools in terms of writing aims on the board but none on pedagogy. The QEP intervention appears to have had limited impact on pedagogy at least in this regard.

Was the register taken?

Table 14.5 – showing % of lessons observed in each group of schools in which the register was taken

Was the register taken?		Y Project Intervention Schools		M1 Comparison Schools		M2 Comparison Schools	
Time 1	(% marked Yes)	(n = 36)	51.40%	(n = 45)	35.60%	(n = 27)	34.60%
Time 2	(% marked Yes)	(n = 30)	73.30%	(n = 25)	40.00%	(n = 19)	36.80%
% Change between Time 1 and Time 2		22.00%		4.40%		2.20%	

Table 14.5 shows the percentage of lessons observed in each group of schools in which the register was taken. At Time 1, the register was taken in half of the Project Y lessons and this proportion rose to 73% by Time 2. The importance of keeping records and taking responsibility for knowing where children are throughout the day was emphasised in the CPDL. This seems to have had some impact, particularly when compared with the M1 and M2 schools where a register was taken in only approximately a third of lessons observed.

Few school leaders have been taught to keep records and the Ministry is often unable to use records regularly. They require schools to collect data when specific needs arise. Consequently, in many schools, records of any sort are sparse. Children know that their absence will not be noticed and truancy can be rife. It is regarded positively that Project Y schools take the register more often.

The attendance records as discussed in the outcome data Chapter illustrate some of the problems relating to record keeping where some teachers submitted registers that were clearly fictitious.

Being given a homework task and having a review at the end of the lesson both saw slight improvements in Project y schools. The details are in Appendix 14.G.

Elements showing no change in Project Y schools

Elements showing little or no improvement included (i) having marked exercise books; (ii) having any clear standards for managing exercise books; (iii) students working in groups; (iv) students helping each other; (v) students asking questions; (vi) accurate subject content; (vii) and praise for good work or behaviour.

This last bears some discussion because although there was no improvement, it was already at a relatively high level at Time 1. See table 14.6.

Did you see the teacher rewarding good behaviour or good work?

Table 14.6 – showing % of lessons observed in each group of schools in which teachers rewarded good behaviour or work

Did you see the teacher rewarding good behaviour or good work?		Y Project Intervention Schools		M1 Comparison Schools		M2 Comparison Schools	
Time 1	(% marked Yes)	(n = 36)	62.20%	(n = 45)	64.90%	(n = 27)	23.10%
Time 2	(% marked Yes)	(n = 30)	63.30%	(n = 25)	36.00%	(n = 19)	36.80%
% Change between Time 1 and Time 2		1.20%		-28.90%		13.80%	

Table 14.6 shows the percentage of lessons observed in each group of schools in which teachers rewarded good behaviour or work. Clapping and praise for students is reasonably common in both the Project Y and M1 schools although there was an apparent drop in the practice observed in M1 school lessons over the year. There was no obvious explanation for this decrease. In the M2 schools there was an increase, but it was still only observed in 37% of lessons Time 2.

The teacher's responsibility to focus on positive behaviours and work is key to QEP thinking, so an increase was expected in Project Y schools but was not observed. There was however a decrease in poor behaviour measured²⁹, with 37% of lessons at Time 1 with instances of misbehaviour to 11% at Time 2 in Project Y schools. The corresponding figures for M1 schools were 30% in lessons at Time 1 and 44% in lessons at Time 2. For M2 schools there was little change with 19% of Time 1 lessons having poor behaviour and 22% at Time 2.

h. Discussions of findings in the lesson observations

On balance, there are two main points: (i) the overall picture is less rosy than the picture painted by the teachers and head-teachers, although largely aligned with the trainers' reports; (ii) the lesson observations nevertheless showed improvements in record keeping (exemplified by increased register use) and some indications of reasons for the improved literacy shown in the impact data. Increased use of English in class for teaching of all subjects and increased participation in lessons are believed by the teachers to have had some impact, alongside the improved attendance and improved relationships and feeling of safeness indicated in the interviews and FGDs.

The table in Appendix 14.D shows the percentage change between lesson elements in observations at Time 1 and Time 2 in all three groups of schools. The elements showing the

²⁹ These data are only shown in the text. There is no supporting table.

greatest positive differences in favour of the Project Y schools compared with the comparison schools are (i) having standards for exercise books; (ii) having lesson aims on the board; (iii) English use (iv) having participatory activities; (v) receiving homework tasks and (vi) taking the register. M1 and M2 schools appeared to have improved in subject accuracy more than Project Y schools and M1 schools also improved in introducing lessons more than Project Y schools.

The observations implied gains in most but not all elements. Notable failures to improve included the marking of exercise books, students asking questions and teachers praising good work or behaviour. The latter element was already over 60%, at Time 1, so this may be why there was little change. On the other hand, those who were not keen to praise before have not been persuaded by the programme.

In M2 comparison schools, there was a small increase in lessons having a lesson plan, having students on task, students being asked to give feedback, teachers praising students and having a clear end to the lesson and an increase in subject accuracy.

Each teacher in the Project Y schools received and discussed a copy of the lesson observation tool to avoid surprises. All teachers should therefore have known what 'good' looks like. Was the failure to take up new practices due to indifference to the pressure to change, lack of clarity as to the instructions and expectations, lack of clarity as to how to implement the instructions or some other cause?

Marking exercise books requires a considerable change to one's working day and represents a significant additional burden for no additional pay. In theory, there may be an acknowledgement that marking exercise books should be a priority but in practice there would have to be real conviction and commitment to make that change.

Marking is a key part of reflective teacher practice, and lack of marking indicates a lack of teacher reflection about how to improve. Marking exercise books is clearly not part of any normal teacher culture yet. When classes are large and pay low, it is easy to understand why this thankless task is not prioritised. The opportunity is however missed for necessary formative assessment and reflection on the effectiveness or not of one's teaching.

The sample of lessons observed is small so conclusions can only be tentative. There seem to be some positive teacher behaviour changes in Project Y schools and more so than in M1 and M2 schools.

Section 6

Discussions and Conclusions



Chapter 15 - Discussion (1)

To what extent have the research questions been addressed and what further research is recommended?

a. Introduction

This chapter has two sections. The first section discusses to what extent each of the aims and objectives of the research has been addressed and how consistent the findings are with previous research, as well as examining what new directions are suggested by the findings. The second section discusses how the data from this research contributes to the literature reviewed in Section 2.

Section 1 – Review of aims and objectives

b. Aim 1: To assess critically the evidence for EducAid being unusually effective in providing for their students' social and cognitive needs

Objective 1. To compare EducAid examination results with national results and results from local schools.

The need to show that EducAid was achieving high standards in students' work and behaviour resulted in this aim. Without satisfying this concern, there would be no sound ethical basis for offering CPDL to teachers in other schools. Using limited publicly available data on WASSCE results, evidence from EducAid's internal Monitoring and Evaluation systems, evidence from some independent research and feedback from independent education stakeholders, it was concluded that within the context of Sierra Leone EducAid was regarded as providing education of an unusually high quality in providing for students' social and cognitive needs.

EducAid students were found to perform better in the senior public exams although there are always questions about the reliability of Sierra Leone's exam data and the numbers of candidates in EducAid were much smaller than in the comparison schools. The reassurance that EducAid added value came in part from the higher public exam pass rates and in part from independent sources. The latter included Jah (2009, p. 87) describing EducAid as the '*exception that proves the rule*' (Jah, 2009 p87) when explaining the different ways that

students related to each other and to staff within EducAid schools in comparison with all other schools she had observed.

Objective 2. To find evidence that indicates whether EducAid's exceptional exam results, if confirmed, could be attributed to a less disadvantaged intake than local schools.

To address the concern that EducAid's success might be due to having a more privileged intake, a measure either of 'value added' or of disadvantage had to be established.

In some education contexts there are readily available measures of children's educational attainments on entry to a school and of their improvement after a period of attendance.

These provide an indicator of 'value added'.

One mechanism for examining a school population is to assess the relative socioeconomic status of the children. In the UK, children's eligibility for free school lunches is a proxy for disadvantage within the school's intake, though as noted by Rutter, Maughan, Mortimore, & Ouston, (1979) data on performance and behaviour is more reliable. In Sierra Leone none of these are available. It was important to find alternative ways to assess whether or not EducAid schools genuinely added value, performing well even though their intake was socially or economically underprivileged. An alternative measure for poverty or vulnerability was proposed that would go some way to addressing this issue. Lacking access to parents' income, the proxy chosen was information on children's guardian and whether either parent had died. Those who had lost two parents were expected to be more vulnerable than those who had lost one or none. Equally, those who had a parent as a guardian were expected to be less vulnerable than those who had other family members or non-family guardians. The most vulnerable would be those who had no other guardian so were endeavouring to cover their schooling and living costs themselves. These are acknowledged as imperfect proxies but are believed to indicate likely relative differences in population between the EducAid school and the other nearby comparison schools. It was found that EducAid's success in the WASSCE was unlikely to be ascribed to having a more advantaged population. On both issues: being orphaned and having a secure guardian, the EducAid school had a generally more disadvantaged population.

It was not possible to take these data from the entire school population, but data were collected from one whole year group in each of the schools under discussion. This represented approximately one third of the senior secondary school's population. Like most proxies, these are imperfect measures, and larger samples across a much broader range of

contexts would be needed to establish their validity as proxies for disadvantage in the Sierra Leone context. They are however believed to be indicative. The findings suggesting that EducAid's population is more likely to be economically and socially disadvantaged correspond with anecdotal reports.

It is acknowledged that neither the quantified data on WASSCE results, nor the qualitative data, nor the data on a proxy for disadvantage were robust. The examination data and establishing a proxy for disadvantage illustrated the difficulty in collecting data that would be readily available in a higher income country. Nevertheless, the available data provided some assurance that EducAid could respond positively to requests for CPDL.

c. Aim 2: To identify which, if any, features of EducAid's schools might be adopted in government schools

Having concluded that it was appropriate to accept a request from other schools for CPDL, I then reviewed the various practices mediating EducAid's own schools' performance and drew conclusions about the transferable elements that could form the basis of a CPDL-based school improvement programme.

The distinctive policies and practices of EducAid schools were identified and an analysis undertaken of those which could and could not be transferred, either wholly or partially.

A number of practices were judged to be distinctive to EducAid's practice and unlikely to be transferable to government schools. Community service programming for all students, vertical tutor groups, new structures for promotion from one class to another and 'EVC' ways of working were deemed inappropriate for at least the early phases of a school-improvement programme based on CPDL.

Practices regarded as needing adaptation rather than wholesale transfer included strengthening numeracy and literacy skills and the encouragement of independent and peer learning.

Respectful approaches, gender equality programming, leadership learning and improved communication between leaders were all regarded as transferable with some adaptations from EducAid's normal practice.

I concluded that there were ways of working within EducAid that could be used as the basis for the design of a school improvement programme for other schools. A key aspect of making these elements transferable was to arrange for participating schools to visit the

EducAid schools in order to see the different practices in action and understand through subsequent discussion the purpose of each of these ways of working, and the values informing them.

d. Aim 3: To design a school improvement programme, based on CPDL, suitable for use in the Sierra Leonean resource constrained context.

Objectives:

- 1 To improve students' literacy and numeracy (Glewwe & Muralidharan, 2015).
- 2 To strengthen intra-school and inter-school collaboration (A. Hargreaves & Fullan, 2012).
- 3 To address the problem of in-school application of training conducted outside the school (Cordingley, 2015a).
- 4 To identify appropriate means to support school leadership (Robinson, 2007).
- 5 To suggest strategies for improvement of relationships between school staff, parents and community stakeholders (Atuhurra, 2016; Pritchett, 2013b).
- 6 To make progress in developing a values-led school community (Kamii, 1984; Zhao, 2016).

The core learning preoccupations listed above, derived from the literature and from a deduction of transferable features of EducAid practice were formulated into a programme constituting two weeks of initial workshop introducing new ideas and key underlying values and ways of working. This was followed up by phone-calls, visits, visits to role-model schools and the head-teachers' participation in a larger heads' network and twice termly meetings. The design took into account the lack of power and technology and was delivered with low-tech and cost-effective approaches.

Objective 1. Student literacy and numeracy appear to have improved through the intervention. Average literacy test scores increased in the intervention schools substantially more than in the comparison schools during the intervention period. Improved numeracy enjoyment and skills were reported by teachers but not measured. The teachers knew they could improve and expressed a concern to teach better. Students in FGDs acknowledge improved speaking, writing and enjoyment of maths, corroborating the test results, the lesson observations and the teachers' comments. The reality remains that teacher literacy and numeracy levels were still low. There may have been some improvements in teacher literacy levels due to their use of English throughout the day, reading circle meetings and

the use of phonics and sentence practice but their own sources of accurate English are limited. Numeracy confidence and competence are also problematic. Achieving global standards will take considerably more complex interventions and support to teacher subject and pedagogical knowledge. A few new pedagogies were seen during some lesson observations – children reading aloud, writing on the board, finding answers for themselves in a book are among those named – but little other change occurred. It is believed that change in literacy occurred through children having more teacher contact time and classrooms feeling safer, once staff and student attendance improved when tackled directly and when canes were replaced with agreed expectations. Changing pedagogy is hard. It may be achieved in future work that builds on this initial foundation but has not been attained yet. The overt focus on literacy and numeracy with interwoven concerns for behaviour change appears to be relatively innovative.

Objective 2. Collaboration between and within schools had previously been rare but the intervention supported an increase in both. Collaboration was largely achieved through leveraging the time spent weekly in the reading circles with all staff meeting together to read. This created the forum for sharing on other issues too. Replacing canes with alternative behaviour management strategies was part of a picture of changing relationships. In training sessions, role-modelling new ways of speaking to learners, discussing what had just happened, using agreed expectations to manage and discuss learner cooperation were strategies that seemed to have supported the teachers and heads in taking up the responsibility to improve and to be willing to collaborate on their improvement across the board. I postulate that the heads felt less threatened about supporting their colleagues in improving after seeing how EducAid staff work together and after discussing with other colleague head-teachers. This resulted in more respectful relationships. When the head-teachers travelled together, gathered together for meetings with EducAid and thus became more familiar with each other, trust and professional cooperation grew. Schools are social institutions with complex relationships. Making mutual respect a foundational concept and practices to facilitate its realisation recognised that social cohesion would be vital for positive school change.

The importance of professional collaboration is frequently mentioned in the literature (Hargreaves & Fullan, 2012). There is less about how this is achieved on a day-to-day basis

and even less about such behaviours in Sub-Saharan African contexts. Professional collaboration was a key component of this project.

Drawing the Project Y heads together into a professional support network that could create further networks for sharing among the rest of the staff was important. One strategy to achieve this was for them to visit EducAid together. Shared experiences can build cohesion and trust in a common understanding.

Participation in the larger network of head-teachers was another aspect of 'alongside' learning and inter-school collaboration that contributed to improvement. Low-profile input, with 'alongside' in-school follow-up from the team may have been the necessary role-model that supported the relationship changes.

Objective 3. Leadership support was central to the project's theory of change. The heads were recipients of additional programme elements as an incentive and in recognition of their crucial role as project coordinators within each school. Trainers noted inconsistent compliance from the different heads during the year. The Project Y 2 head took the lead in organising inter-school meetings and was keen to have his lessons observed. In contrast the Project Y 1 head refused to have his lessons observed. By the end of the year, however, improved leadership was being seen in all schools. In line with clearer reporting structures for the training team, school leaders might have been more reflective and engaged if the checklist (described in Appendix 8.C) had been introduced earlier and aligned with the SMC checklist (described in Chapter 8. In this project these both evolved in response to perceived needs that arose during the intervention. A stronger intervention might see some reflectivity during the intervention, resulting in adjustments emerging through discussion and evolving ideas. Key target behaviours, though, would be more clearly enunciated from the beginning.

The leaders grew in their role as managers of improvement. In the early stages, there was minimal engagement as if attending a training session with other colleagues implied weakness on their part. In sessions specifically focusing on school leaders, there was increased willingness to participate and, with time, increasing value for the team's inputs. A stronger intervention would probably have had more intense engagement with the heads together and away from the other staff so discussions about leading change and role-modelling good behaviours and the minimum standards could have clarified their crucial role in leading improvement.

Objective 4. In-school follow-up gives CPDL programming some chance of success, and without which failure is ensured. In a higher-income country context, schools often commission in-school, tailor-made training packages on particular issues. This can more easily secure implementation of ideas and a reduced gap between theory and practice (Cordingley, 2015a). In a context such as Sierra Leone, when asked what support is required, the response almost always focuses on hardware, equipment and learning materials. There is often little grasp of what is not known and what additional skills and knowledge would be helpful. It is more than likely that training will be commissioned, designed and delivered outside of the school and furthermore be part of projects controlled by donors, with consequential and sometimes negative impact on who controls the agenda (King, 2016). To a certain extent, this intervention was controlled by those outside the school too. The donors identified the need for support and identified EducAid as the potential providers. The donors gave EducAid the opportunity to use our experience to provide strong guidance as to what would be appropriate, whereas some donors allow less input. The beneficiaries had little say in the early stages of the programme. It was anticipated that it would take time to build relationships of trust required for full cooperation (A. Hargreaves & Fullan, 2012). Accordingly, while agreed expectations were established with all key stakeholders before data collection, at this stage neither teachers nor head-teachers had a strong input to the intervention design.

In a well-resourced school context with internet access, audio-visual display equipment and a variety of reading material available, resources can be made accessible during training sessions and returned to at will. However, in a resource-constrained context, where teachers work with only basic school equipment, without power or devices with which to access the internet or watch videos, one relies on different structures and follow up support.

This was achieved through take-home reading materials, follow up phone calls with the head-teachers and termly support visits. When left to work independently after the literacy and numeracy workshops, without immediate in-school reinforcement, some teachers failed to implement ideas from the intervention. Elements were forgotten or misunderstood or perceived as too difficult. Having a Sierra Leonean, low-threat team working alongside them supported implementation but a stronger intervention would have a more regular presence than termly visits.

Objective 5. Improved relationships with other stakeholders around the school have been a missed resource for good governance. The lack of literacy in the population can increase stress as community members easily feel excluded from school as a place only for the educated.

From the first engagement with the schools, the community were invited to a meeting at which agreed expectations were established for all groups of stakeholders but only much later was a workshop held with the community / parent bodies attached to the school. The approach used role-modelled inclusivity and respect. It acknowledged that the communities are the 'client' for education services and can therefore be a strong component for good governance and the upholding of improved standards. A stronger intervention would have engaged the community bodies much more actively much earlier in the intervention.

Furthermore, the icon-based checklist would have been aligned from the beginning with the school's checklist. Collaboration between stakeholders was strengthened but a simpler set of targets and their clarification from the outset might have strengthened the programme and the students' outcomes. When all contributing players draw in the same direction, much conflict can be avoided. This was an important part of the theory of change but could easily have been stronger by including it earlier and making it more central.

Objective 6. Developing a values-led community gives meaning to the rest of the improvement endeavours. Through twenty years of experience, challenging a post-conflict culture where corruption is rife, EducAid has put strong emphasis on values of integrity, community, equality and love. This can be summarised in the southern African concept of 'Ubuntu' (Thompson, 2017; Tutu, 1999). Aligning with Freire (1970) and his view of the humanising role that true education must play, the concept of Ubuntu expresses an incompleteness in one's humanity without a concern for community and kindness. These concepts are not just 'nice to have' additions to the literacy and numeracy work but the very foundation. In the words of a fellow educator, '*social-emotional learning isn't some new thing to put on a teacher's plate – it is the plate* (mark_vondracek, 2019)'.

In the initial workshop, agreed expectations were established and used to guide participant behaviour and Ubuntu in-school techniques were taught. Throughout the implementation phase emphasis was placed on respect, community, collaboration, encouraging kindness, and "we not me" attitudes.

This hinged first and foremost on providing teachers with alternative means of managing behaviour so they could abandon corporal and humiliating punishments. In consolidation, Ubuntu time, agreed expectations, ‘nobody left behind’, collaboration over competition approaches and respectful ways of talking to children and to each other were constantly raised, discussed and reinforced during the heads’ meetings and during support visits. Respect as the heart of the matter, as the foundation for all other development, as the lens through which to take decisions and assess progress: this is what the project aimed to role-model and help the schools aspire to and live up to.

Cognisance of the Sierra Leonean context was realised through (i) the ways in which follow-up support was dependent on nothing more complicated than phone technology; (ii) a Sierra Leonean team who understood the cultural local sensitivities and spoke the local languages; (iii) a sustainable model of support and (iv) acknowledging the EFL context and providing support to teacher literacy, meeting the teachers where they were. These could be said to have been moderately successful but, the results discussed in Chapter 12 indicate some improvement beyond the life of the project, seen in the on-going improvements in literacy scores and also in on-going improvement in teacher behaviours. With better strategising for sustainability and clear improvement plans being established for each school and across the network of school, a stronger impact might have been possible.

Aim 3 can be said to have been at least partially achieved in that a CPDL programme was designed, cognisant of the particular conditions in Sierra Leone. This programme learned from the school effectiveness and improvement literature and also from a pilot version of the programme that was carried out in a different district in Sierra Leone and had been received with enthusiasm by the authorities. A stronger programme could, without doubt have been designed. Simplification and clarification of aims might have strengthened the intervention, with earlier inclusion of community bodies and more on the ground support to implementation.

a. Aim 4: To obtain and assess evidence showing whether students’ performance had improved by the end of the school improvement programme and at follow up.

- 1 Objective 1. To find an alternative to often unreliable formal measures of students’ academic performance such as public examination results.

The intention was to find an alternative to the public exam data. An EGRA based test was designed and provided an alternative measure of literacy competence for a pre and post-test comparison between intervention and non-intervention schools. This test appeared to give fairly consistent results across the intervention and non-intervention schools and was felt to be a reasonably reliable test. The test relied upon consistency in its administration. On one occasion out of a potential 30, there were problems with the supervisor helping children with the test. This apart, consistency in administration of the test appeared acceptable.

An equivalent numeracy test would be beneficial too.

2 Objective 2. To collect reliable data on attendance.

Attendance records were gathered directly from the registers in the schools and although some recalculating was necessary, and one school's registers had to be discarded entirely as unreliable, overall the attendance records were consistent across all schools and seemed to provide a valid measure. Bearing in mind the tri-partite conclusion of Bold et al. (2017) that low teacher-student contact time, poor subject knowledge and poor pedagogical knowledge were at the heart of Sub-Saharan African low education performance this provided a proxy for teacher-student contact time. Consistent records of teacher attendance were less reliable. The more rural a school the less likely it is that records will be kept or be kept accurately.

It is to be noted that student attendance is not a measure of teacher-student contact time used by Bold et al, (2017). Nevertheless, it appears to be a logical though imperfect indicator in the absence of data on staff attendance and in-class teaching time. Essentially, if students are not in school, they cannot be taught.

Aim 4 was achieved, in that although NPSE data were not found to be reliable, an alternative literacy test did provide reasonably strong evidence of student progress and attendance data were also collected.

- a. **Aim 5: To identify problems and possibilities associated with well-motivated but largely untrained teachers delivering school improvement programmes, and collecting data for an evaluation, with only arms-length supervision from the Country Director.**

- 1 Objective 1. To investigate the level of support and training needed for a non-specialist team to deliver a high-quality programme.

Although using an expatriate training team tends to entail risks due to cultural and language barriers, the use of a less-experienced local team also comes with limitations and risks. The quality of data can be compromised even after considerable training if members of the team have not fully understood the purpose of the data and how it will be used. If the team members are unable to manage their time well or fail to give feedback requesting more help when falling behind, the regularity of some activities, including data collection, can be reduced with a consequent loss of data.

These were all problems experienced in this project but training sessions were delivered and useful data were still obtained. The data identified elements of the training and reporting structure for the trainers that needed to be strengthened. The alternatives, for example delivery by a foreign team, would have faced greater problems, including that:

- a. The funds would almost certainly have been insufficient to deliver the complete programme as the staffing costs would have been considerably higher,
- b. Without good local knowledge and experience of building relationships, there would be limited sensitivity to the participants' responses – positive and negative – during training workshops, school visits and other encounters;
- c. The opportunities to build relationships of trust would be greatly reduced.

- 2 Objective 2. To investigate the supervision levels required in order to ensure compliance between the facilitators' training and their implementation of the programme.

Training sessions were undertaken before and during the intervention and regular supervision meetings were held. Nevertheless, there were still issues relating to compliance, the detail of data collected, competence in handling the data storage tool (Google Drive) and communication when there were problems. Supervision levels were insufficiently strong and reporting systems insufficiently structured. Clearer follow up pathways describing issues worth reporting, and what to do when issues were identified, would have strengthened the team. They were limited by the structure I had established more than by any innate weakness of their own. It may at times have been compounded by the team at times preferring to tell a story aligned with what they believed I wanted to hear.

This too could be addressed by more scenario-based training on the impact of failures to report concerns.

Aim 5 can be said to have been partially achieved in that problems and possibilities associated with using a local team to deliver the programme and run the evaluation have been identified. Future projects will need to consider levels of supervision and support needed, and the balance between supervision and entrusting a largely unqualified team with responsibility to deliver training.

Using a Sierra Leonean team is a more sustainable and culturally appropriate strategy, but no team, no matter the nationality or culture, will succeed without sufficient training and a well-structured reporting framework. Many things would be changed as a result of this learning. This research facilitated some further exploration of what aspects of training and reporting structures need to be strengthened for the evaluation and for the programme delivery.

g. Aim 6: To throw light on aspects of the programme that the teachers, pupils and other stakeholders experienced as strengths and weaknesses of the programme.

Culturally, Sierra Leoneans tend to be friendly and want to be cooperative. Eliciting feedback perceived to be negative can be difficult. Some will prefer to say nothing or to avoid the question rather than provide negative feedback. This may be for a variety of reasons including the fear that negativity may result in programmes ending and funding being cut off.

To overcome this, language was used with which participants were comfortable, with a focus on special requests for “next time” and recommendations for future iterations rather than criticism of what had gone before.

4 Objective 1. To provide data on teachers’ experiences of the intervention.

Teachers’ and head-teachers’ views were gathered during focus group discussions, semi-structured interviews and an end of year evaluation workshop. The resulting feedback was ultimately felt to indicate progress in thinking, even if at times the practice was still lagging behind. Additionally, a range of different opportunities for feedback was used to improve triangulation. With more reflective practice in a further phase of support, it may be possible to gain better understanding of which aspects of training and follow-up were most useful. Sometimes the fact that teachers voted with their feet and absented themselves was

feedback in itself. At the very least, this informed adjustments in timings of meetings and the need for the provision of refreshments.

5 Objective 2. To provide data on students' experience of the intervention.

Student feedback was collected through a focus group discussion (FGD) at the end of the intervention. This was also done at a six-month point but with far less success, in that the children were less comfortable speaking on the first occasion. Data were acquired but future iterations of the project will look for additional sources of data on children's views.

6 To provide data on other stakeholders' experience of the intervention

Useful feedback from other stakeholders came from informal conversations with Ministry representatives and focus group discussions with parents and SMC members.

Aim 6 can be said to have been partially accomplished in that views were obtained from all groups and the feedback at the end of the project was generally positive. There was confirmation from all sides that the intervention had had positive impact on student behaviour and learning and that they wanted the programme to continue.

The aim was only partially accomplished in that the detail of what had not worked well was far less clear. Additional strategies for evaluating the strengths and weaknesses of the programme will be needed in further research. Evidence of change, or lack of change in the case of classroom pedagogy, was obtained through lesson observations. Teachers' understanding of the need for less didactic approaches to teaching emerged from their comments in interviews as well as in classroom observations. Greater engagement with these elements in training the trainers may help in future projects.

In the next section the findings are discussed in light of the three literature review chapters.

Section 2

There were three literature review chapters. This section of chapter 15 discusses how the data from this research adds to the literature that was reviewed.

a. Literature 1 – School Effectiveness & Improvement – Social & Cognitive Aims of Education

At the end of chapter 2, the question that emerged from the literature was *‘Is it possible to improve schools through enhancing leadership and governance, building relationships within the school and between the school and the community, fostering socially safe environments and improving data management?’*

At the heart of the answer to this question was the project’s work to support the abolition of corporal punishment in all of the intervention schools. Sierra Leonean schools still commonly manage behaviour with corporal punishment. Teachers and parents tend to regard suggestions that this should change as irresponsible and sure to lead to indiscipline. There is much literature on the problems and negative consequences of corporal punishment, not only within schools and on children’s learning but also for wider society (Global Initiative to End All Corporal Punishment of Children (GIEACPC), 2015; TRC, 2004a). The literature review did not find any research focusing specifically on the benefits of eradicating corporal punishment in a low-income country such as Sierra Leone. This research contributes some understanding on this issue. Before the intervention started, parents and teachers expressed alarm about replacing reliance on the cane with positive behaviour management approaches. By the end of the intervention they were enthusiastic about the improvements in children’s behaviour, attributing the children’s improved attendance at school and participation in class to reduction in use of corporal punishment. Children, too, spoke positively about the positive changes in relationships with their teachers and with each other.

The literature acknowledges the importance of building formal and informal relationships between the school and the community / parents (Atuhurra, 2016; Pritchett, 2013b). Other examples of a tool such as the icon-based checklist used in meetings with School Management Committees have not been traced. This was deliberately aimed at re-enfranchising a largely illiterate community and was valued by head teachers and teachers as well as by community members. It is seen as a major influence in persuading initially sceptical communities that abolition of corporal punishment would not lead to chaos.

Learning from Bold et al., (2017) this programme prioritised support to improving teacher-student contact time, improving teacher subject competence (with a focus on literacy and numeracy) and improving teacher pedagogical competence (with a focus on strategies for independent learning and writing, and on learning maths through games). Nevertheless my research found this focus on subject competence and pedagogy to be insufficient for three reasons: (i) the significant impact on society and school ethos of authoritarian education approaches (Harber, 2016), (ii) the need to address concerns raised by Freire (1970) about challenging an oppressive status quo through appropriate educational practices and (iii) the importance of recognising that the social aims of education are met through children's experience in the classroom as much as in the school compound. A distinctive – and apparently successful – aspect of the programme was that it inter-wove social and values-based learning with numeracy and literacy. Throughout the intensive literacy and numeracy weeks and throughout the support provided during implementation support the trainers sought to role model that how we teach is at least as important as what we teach: respectful relationships were seen as crucial (Cohen J. , Cardillo R., & Pickeral, 2011).

Essential to this concern is that respect for one's students will result in a preoccupation with role-modelling respect by working 'alongside' participants rather than "top-down" methods of teaching. Lunenberg, Korthagen, & Swennen, (2007) note role-modelling is rare in teacher-training and Freire (1970) notes the importance of teaching in ways that challenge an oppressive status quo.

Data management is an acknowledged weakness in most Sierra Leonean schools. Attempts were made to support improved record keeping but these were not met with any degree of success. Registers were properly kept in most schools and some exam records but attempts to support any log of performance management, minutes of important feedback meetings with staff or records of participation in the programme were unproductive in all schools.

In summary, I conclude that this study was able to provide evidence of positive experiences of school improvement in addressing both social and cognitive needs of students.

Potentially innovative approaches included the partnership between EducAid and other schools, the focus on respect including abolishing corporal punishment through the provision of alternative behaviour management means, supporting strong community engagement in governance through a tool targeted at the inclusion of an illiterate

community and the constant interweaving of training in literacy and numeracy with values and in a manner that role models community values.

b. Literature 2 – School Improvement – Professional versus Business Capital

Approaches & CPDL

At the end of chapter 3, the question that emerged from the literature was, *‘is it possible to provide CPDL interventions that build human, social and decisional capital as well as improving the school leadership in order to achieve effective school improvement?’*

‘Professional capital = social capital + human capital + decisional capital’ in the Hargreaves & Fullan (2012) analysis.

Building human capital in this context referred to supporting literacy and numeracy competence among the teachers and then training in some more supportive, interactive ways of teaching literacy and numeracy. For literacy, this was achieved through providing Reading Circle materials to encourage teachers to read and training them in a range of techniques to help them trust their students to write independently. For numeracy, this was achieved through the use of maths games and activities to be taken back and used in the classroom. Some limited success was achieved. The teachers that complied reported enjoying both the new reading content and the maths games but it was not the strongest component of the programme. The Reading Circle meetings helped to facilitate meetings through which other useful messages and ideas could be shared but wholesale uptake of new pedagogies was not seen.

The intervention was delivered at a time of transition in the political framework for education in Sierra Leone. The intervention took place in the academic year of 2017 – 18. The government changed in March 2018 and with it the education governance landscape. The Teaching Service Commission (TSC) started to act on its mandate and to require all CPDL providers to align with the TSC professional standards. TSC representatives have indicated their desire to see the QEP officially recognised, which would add value to the programme as it could then contribute to the teachers’ newly required professional portfolios. However, as an institution, the TSC has no mechanism yet to make this happen. Building human capital is about building formal and informal capacity. While the intrinsic value of learning is clearly important, its recognition and formal accreditation is also valuable. One of EducAid’s senior trainers has just been recruited into the TSC. Maybe his presence will support a more structured process.

With reference to building social capital, supporting the development of professionally useful relationships between teachers and between schools was central to this project. Although the literature review provided examples of a range of different types of collaboration, for example clusters or federations (Chapman & Muijs, 2013; A. Hargreaves & Fullan, 2012), examples of the sort of support being requested from EducAid were not found. Teachers in a more successful school providing CPDL programming for teachers in less successful schools appears to be an unusual if not unique model. Some key principles were identified and informed the structure of the programme. These included the centrality of the head-teacher as the school-based project coordinator; the importance of networking between schools and particularly the school leaders to build momentum; the importance of building a relationship of trust between the training team and the participant schools and follow up visits to discuss and support implementation.

Supporting the head-teachers to take responsibility for supporting their teachers' improving performance was important and although few formal lesson observations were undertaken when the EducAid team were not present, the heads did generally become much more encouraging and appreciative of good work. Central to improving decisional capital is taking responsibility for reflecting on what is working and what is not in order to improve. This was part of the process during the follow-up visits. A key practice that the heads in particular were asked to start was the use of a diary to log their observations around the school and of teachers' behaviours. Unfortunately attempts to encourage this were not successful. It seems probable that EducAid will have to find other ways to facilitate more focused discussions and develop increased decisional capital. The greater the reflection, the greater the potential for contribution to professional capital.

School leaders can feel a need to assert their authority due to a lack of leadership training and competence. Compensating for incompetence by autocratic behaviours is common. The process evaluation highlighted the importance of supporting leadership by finding ways to help heads feel less vulnerable. When that happened, heads started to behave less defensively and more respectfully towards staff and students. While much leadership literature focuses on this issue, other than Raanhuis & Howell's (2016) study in post-apartheid South Africa none was found focusing upon relational leadership in school improvement in Sub-Saharan African contexts. This may be because other needs appear more pressing; but this study indicates that this emphasis is important in any context

because increasingly respectful relationships lead to improved performance at every level of the school. Given the need to challenge the disrespectful ‘banking³⁰’ teaching method (Freire, 1970), this is deemed one of the most important pieces of learning from the whole study. Replacing ‘banking’ teaching with respectful teaching methods supports the development of a more conducive learning environment where better social and cognitive student outcomes are intertwined. This is discussed also in the literature review on page 62. Learning relating to the literature reviewed in this section is closely related to that in the previous section. The focus comes back to establishing more respectful professional relationships. The intervention was consistent with Fullan and Hargreaves’ (2012) thinking and indicates its applicability beyond the American context with which it primarily dealt.

c. Literature 3 – Sub-Saharan Education

At the end of chapter 4, the question that emerged from the literature was, *‘is it possible, in a Sub-Saharan African context such as Sierra Leone, to provide CPDL interventions that support school improvement sustainably through a focus on improving school leadership, relationships amongst all school stakeholders and through the re-establishment of a values-led community?’*

Given the discussions above, I believe I have shown that it is possible to provide such a programme. There were lessons to be learned for its improvement. There were aspects such as record keeping which has an impact not only on data overall but also on improving decisional capital, that have not yet been successful yet. There are adjustments to be made in timing, in focus, in training of the team but there is a contribution to knowledge through the extension of the professional capital model to a new context and through merging the focus of Bold et al, (2017) on teacher contact time, teacher subject knowledge and teacher pedagogical knowledge with Freire’s (1970) values-conscious approach.

A theory of change has emerged that will guide further iterations of this project. Any further project will extend the sample and further test the theories underpinning the understanding gained here.

³⁰ Freire refers to ‘banking’ as the system of education that takes no heed of a learner’s previous knowledge or what they bring to the conversation. The learner is treated as an empty vessel to be filled unquestioningly with facts. As such this method of learning is inherently disrespectful.

d. A theory of change

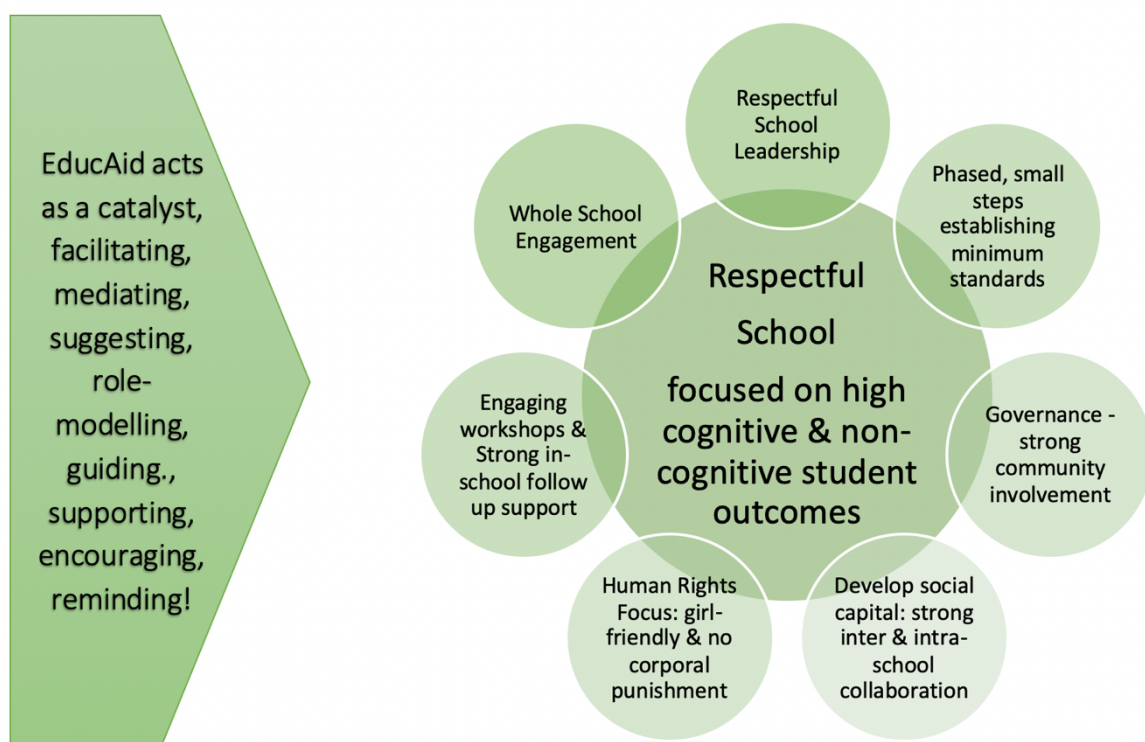
A theory of change derived from the research is shown in Figure 15.1. It is based on research into:

- Governance, Leadership & Pedagogy. These bring change. The understanding that a focus on material ‘inputs’ (equipment, text books, infrastructure) tends to have little impact on student outcomes is a fundamental conclusion from the research. Governance, leadership & pedagogy are the change-makers (Sabarwal et al., 2014; Skidmore, 2018).
- Whole School Improvement – Fragmented change through support to one or two teachers will result in a dissipation of any impact. The whole school needs to move together, led by the head.
- School Leadership – The engagement of the school leader is essential as the lead in building momentum for school improvement (Robinson, Hohepa, & Lloyd, 2009c)
- Respectful Relationships – The debates about authoritarian and democratic education are well known (Edelsky, 1994; Harber, 2016; London, 2002; Oduro et al., 2007) but without respectful relationships little progress is likely, and has been identified in the Sierra Leonean context as critical (TRC, 2004a).
- Governance – The impact of community involvement in school governance has been neglected in the literature but the community can serve as a powerful lever to demand and uphold at least minimum standards (Atuhurra, 2016).
- Building Social Capital – Supporting intra & inter-school collaboration to develop a learning community across the intervention schools greatly increases the chance of teacher, school and systemic improvement (A. Hargreaves & Fullan, 2012).
- Phased Minimum Standards – Phased, bite size approaches support changed teacher behaviour (Piper, 2019). Less is more!
- Education across Sub-Saharan Africa, - Bold et al., 2017) show that(i) low teacher-student contact time (ii) low teacher subject knowledge (iii) low teacher pedagogical knowledge, indicate a three-pronged problem underlying poor student outcomes in the region.

The research confirmed that school improvement is a complex process that must take into account both the cognitive & non-cognitive needs of the children. A respectful learning environment is built on respectful relationships among all those involved in the school. With

respectful relationships comes dialogue, the possibility of agreeing roles and responsibilities and a chance to challenge social norms such as corporal punishment, gender unequal behaviours, poor punctuality and attendance. Strategies that involve everyone are used to tackle these behaviours. When these behaviours change, attendance improves and children have more time with their teachers. This brings academic improvement. Success breeds success. Teachers, school leaders, parents and children enjoy their achievements and want to improve further. This creates the platform for more complex changes: teacher literacy & subject knowledge and ultimately teacher pedagogical knowledge. Improvement is non-linear and reiteration is essential.

Figure 15.1 - Theory of change for the Quality Enhancement Programme



e. Conclusions

In conclusion, learning from literature addressing school effectiveness and school improvement with a concern for both cognitive and social domains, from literature addressing professional capital versus business capital in school improvement programming and from literature furnishing an understanding of Sub-Saharan African education, a CPDL programme was designed. Lessons have been learned, adjustments will need to be made for further iterations to be more successful but the programme delivered by a Sierra Leonean team has provided evidence of promise and appears worthy of further exploration.

Chapter 16 – Discussion (2)

Using the results of the study in planning a roll out

“Nearly every problem has been solved by someone, somewhere. The challenge of the 21st century is to find out what works and scale it up.” - William J. Clinton

a. Introduction

This chapter is the second of two discussion chapters and discusses issues relating to taking a small pilot project to scale.

b. Limitations to the Project Y data

It is acknowledged that there are limits to the data arising from this study. Any conclusions drawn can only be taken as suggestive or indicative of improvements being associated with the intervention. It is a relatively small sample with only 36 children from each of the 15 schools involved in analysis of the literacy tests and only five schools involved in the intervention. Cohen et al., (2007) note that to derive robust data one needs a sample size of at least 30 but preferably more. Were it to have been possible to have at least 30 schools involved in the intervention and a further 30 comparison schools, the data would have been considerably stronger.

The ideal research design is a fully randomised control trial. This study was not randomised. The group of intervention schools was selected by the donors and the comparison schools were selected by the EducAid team and the Ministry of Education representatives as providing an appropriate comparison. The quasi-experimental design is recognised as providing less robust data than a fully randomised controlled trial but as contributing to overall understanding.

Another limitation was that, although for good reasons, the team comprised young EducAid staff, most of whom were not only inexperienced in carrying out research but had also received no formal teacher training themselves.

c. Request for extension

The perceived success in the first year of intervention has resulted in the donors requesting a five-year extension. This extension project will work towards an exit strategy whereby

EducAid would relinquish the responsibility for identifying CPDL needs to the schools themselves at the end of the support period.

d. Request for roll out

This study and the larger pilot study have results which have already gained attention from certain governmental bodies, who are requesting EducAid's support in providing school improvement programming on a larger scale. Over the years, individual schools and some groups of schools have approached EducAid for support, in addition to both the Project Y and the pilot projects. These have been on a similar scale to this project or a little larger. However, in the light of the results in this study, EducAid has already been asked to propose a roll out strategy in two different and much larger contexts:

- Freetown City Council (FCC)– the new mayor of Freetown has an eleven pillar #TransformFreetown agenda which includes an education component. After the perceived success of the QEP in other contexts, particularly with the focus on support for head teachers and other leaders to set high standards, the FCC has asked EducAid to work with another organisation to support the delivery of leadership training and the establishment of monitoring and evaluation systems for improved student outcomes (Freetown City Council, 2018). This project would involve working with some 360 primary and junior secondary schools.
- North-West –the coordinator charged with the delivery in the North-West of the new governmental policy initiative of ‘free, quality education for all’³¹, has asked EducAid to propose a version of the QEP for delivery in all its primary and junior secondary schools. Depending on the availability of funding, this project could involve working with up to 1160 primary schools and 277 junior secondary school.

Does the data justify scaling up to such a large roll out?

In a high-income country with plentiful innovations and data indicating their relative success rates, the data would almost certainly be insufficiently robust to warrant this level of scale up. However, in Sierra Leone, where there is a long standing lack of access to high-quality CPDL and a dearth of evidence on its effectiveness in raising standards in schools, failing to

³¹ This policy initiative has not received full funding yet, and the details of ‘free quality education’ are currently unclear, having been first referenced in the launch speech by the Minister of Education (Timbo, 2018). Each regional coordinator has been charged with delivering the policy but seem to have had little direction as to the specifics.

respond to this request would not only be a lost opportunity for EducAid, but also – and more importantly – could be seen as turning our back on schools in urgent need of support.

What are the challenges in responding positively to this request?

Predictably, it is the literacy results that have gained attention from the respective education authorities. Chapter 12 reported effect sizes of 0.982 and 0.992, and literacy test change scores of 26.5% in the intervention schools over one year, versus 1.9% in comparison schools. Also, student attendance improved by 24.2% in intervention schools versus 2.9% in comparison schools between the beginning of the intervention (June 2017) and the end of the intervention (June 2018).

EducAid has continued with its pilot project, ultimately working with 76 schools (52 primary schools and 24 junior secondary schools) across the district and this too has seen some positive impacts. The data collecting procedures were less robust in the pilot which was one reason for the decision to use project Y for this study. Nevertheless, comparisons with national standards where possible, and with records from previous years, have indicated that participation in the EducAid Quality Enhancement Programme was associated with improved student outcomes and teacher behaviours.

The challenge is how to meaningfully go to scale. A balance must be found between learning from something that seems to have worked on a small-scale and finding ways to ensure local ownership within each district, chiefdom, ward and school when it is rolled out on a much larger scale. There is a long history of substantial funds being allocated to programmes that have had little sustained impact. For example an average of \$476 million per year was given in aid to Sierra Leone between 2000 and 2017, but this investment has only seen Sierra Leone progress from being poorest country in the world in 2000 to fifth poorest in 2018, with little change in life expectancy and child mortality beyond those to be gained from no longer being a war zone (United Nations Development Programme, 2016; World Bank, 2018b). Exact figures are not readily available for the education aid budget but it is known to have been substantial and yet have left 19% of the school age population out of school and thousands of children leaving school without basic numeracy and literacy skills (Government of Sierra Leone, 2018).

If given the opportunity to work with these large numbers of schools, it is vital that appropriate roll out and scale up strategies are employed. Initial discussions suggest that EducAid would partner with one other organisation on the FCC project and be the lead

partner in a consortium to deliver the project in the North West as it currently lacks the resources to work at this scale on its own. To attempt school improvement across the whole North-West region and / or the whole Freetown municipality requires careful strategic thinking. The region contains a variety of school types (private, agency run and government) and communities (rural, peri-urban, urban). As important, the head teachers, teachers and Ministry supervision structures in these schools and communities contain a range of commitment levels, from intense interest in education, to none.

e. The political context

Sierra Leone is nearly two decades out of its 11-year war (1991 – 2002) and has faced some big economic and political challenges since the war ended. In the two decades since the war, the conversation about education has not been centre-stage; and the limited conversation there has been has tended to focus on renovation or construction of buildings in order to improve access. Very little importance has been given to quality (Ngegba et al., 2016). In March 2018, a new government came to power with free quality education as their flagship policy. For the first time in years, education was central in Sierra Leonean thinking. In September, fee-free education was introduced for students in primary, junior secondary and senior secondary schools. This was a bold move for the country and has created high expectations. There have been negative unforeseen consequences in some places. I visited two chiefdoms that between them now have only one registered school and one registered teacher. Where schools are not registered, they receive no financial support from the government, and unregistered teachers are not paid by the government. Previously unregistered schools (known as community schools) would have been funded through parental contributions which have now been made illegal by the new government policy. Now that schools are no longer allowed to collect school fees from parents, many unregistered schools are losing teachers fast. In the chiefdoms in question, over twelve schools had shut down between September and December 2018 due to teachers leaving to join the more lucrative illegal timber trade. The political reality though, is that the governing party will need to show some progress very quickly, not only on the free component of the programme but also on 'quality' and 'for all.' The coordinator for the delivery of the 'free, quality education for all' programme for the North-West who has asked EducAid for support needs a practical, affordable project to propose to donors, with roll out as fast as is feasibly possible.

When designing a programme that for political reasons needs some quick wins, it is essential to be realistic about a teacher workforce with a starting point of 52% of teachers reportedly having either no qualifications, or a qualification below the minimum requirement for the level at which they teach (MEST, 2013).

As education comes to the fore, the Teaching Service Commission (TSC) too is taking up its role. This body had been established under the previous regime, probably in compliance with donor requests. However, it had been, for unspecified political reasons, completely side-lined. The TSC has now produced a set of professional standards and maintains that all providers of teacher training must have their approval and deliver programmes in line with the standards. Although there is currently no mechanism for this to be achieved, it is important to align all possible practices within EducAid's programming with the TSC professional standards. The TSC document is complicated and prescribes 189 sub-standards multiplied by 4 career stages, making 756 codes of competences for teachers (Sierra Leone Teaching Service Commission [TSC], 2017). It is unrealistic to pretend that in the couple of years within which the government needs to see improvements it will be possible to help teachers in over 1000 schools provide evidence of achieving all these sub-standards. However, using the experience from this research and knowledge of what needs to be included as a minimum, it has been possible to submit proposals to potential donors for a practical programme.

Throughout this study the importance of integrating the cognitive and social aims of education have been emphasised. The TSC's competency-based framework is likely to encourage a fragmented approach. Furthermore, this seems to be in strong contrast to Fullan and Hargreaves' (2012) concept of decisional capital which emphasises the importance of an ability to respond flexibly and wisely to the innumerable challenges and concerns to be borne in mind while teaching a lively class. It is hard to see how these complexities can be recognised in the TSC's approach.

Nevertheless, for pragmatic reasons it will be necessary to demonstrate compliance. Rather than taking the framework as the basis for CPDL design, EducAid will design a programme that aligns with its learning from previous programming and data, as well as the actual needs of teachers with whom it works, and then demonstrate how this complies with the framework.

f. Learning from the research

Taking a small project to scale seldom sees the same dramatic levels of impact that were observed in the original project, either due to programme fidelity issues or a lack of ownership (Bradach, 2003). Other research identifies considerable additional challenges such as:

- limited public involvement in the reform
- insufficient political commitment
- little or no direct accountability for outcomes (Samoff, Dembélé, & Sebatane, 2011)

Consequently, it is not anticipated that the same levels of success would be achieved as in the smaller Project Y. However, EducAid argues that even if only 50% of those gains were to be achieved, it would be worthwhile. In a large-scale roll-out there will be some requirements that mitigate against full fidelity to the original programme but there will be others that support it. If it becomes a government requirement that all schools participate in teacher professional development activities it is harder for any school to opt out without consequences. While one would certainly hope not to rely on the threat of compulsion, it can be a useful tool to induce initial engagement, until participants discover their own reasons for participating with enthusiasm.

Bold et al (2017) identify teacher subject knowledge, teacher pedagogical knowledge and teacher contact time as key areas to be addressed in Sub-Saharan Africa. The questions therefore are: (i) Which aspects of EducAid's QEP can meaningfully address these issues while remaining within likely funding limitations? (ii) What improvement elements are priorities while scaling up?

g. So, what is an affordable, practical, well-informed way forward?

The intervention reported in this thesis had an explicit focus on supporting teachers in the development of their skills in teaching literacy and numeracy while addressing positive behaviour management, improved gender equality and ambitious standard setting. In other words, the QEP adopted a holistic approach. How much impact did all of these aspects have? As shown in chapters 13 and 14, although the rhetoric changed and the teachers started to seem to want more participatory lessons and claimed they were fully in favour of gender equality, and also that their maths and English teaching was transformed, there was little evidence of much deep change in pedagogical practices or in subject knowledge when

lesson observations were undertaken. How, therefore, is it likely that the change in student outcomes was achieved? The biggest observable change at every level of the school and its stakeholders, was the integration of instruction on how to teach literacy with the change in relationships and the ability to behave respectfully towards each other. It is therefore judged that building on this experience, a focus on improving literacy and numeracy, integrated with values of integrity, community and respect, and supported by positive behaviour management, must be the heart of any roll out project. When children were less fearful of attending school, once corporal punishment was ended, and when the whole community came together to insist on common standards, attendance improved, with an inferred improvement in teacher-student contact time.

h. What has been proposed?

A proposal that has found favour with an initial donor advisor and one other donor focuses on the three aspects of education weakness identified by Bold et al (2017) and integrates them with the concerns for appropriate respectful ways of teaching. This suggests simple actions in line with each of the three concerns, while interweaving values-led teaching.

Respectful Relationships to create a good learning environment

Respectful relationships and values-focused approaches will be integrated into all of the three other aspects. They are such an important lens through which all other aspects must be addressed that they are worth mentioning separately. Removal of corporal and humiliating punishments and positioning teachers as supporting the children on their learning journey changes how all other actions are undertaken. Alternative strategies for behaviour management are proposed: agreed expectations and reward stars are the key focus for a change from sanctioning negative behaviour to supporting children to require positive behaviour from each other.

Improve teacher-student contact time

Strategies identified to address this issue were:

- Standardise expectations of School Management Committee (SMC), Ward Committee³² and Ministry of Education staff for certain minimum behaviour standards in all schools. Cognisant too of the need to address non-cognitive

³² Each district is divided into chiefdoms, each chiefdom is divided into wards. Each ward has a ward committee. These have been largely dormant for the past years but the government is keen to revive them.

elements of a good education, these expectations must include an abolition of corporal punishment and the insistence on respectful behaviours across the school community.

- Train Ward Committees & School Management Committees on rights and responsibilities.

While EducAid worked strongly with SMCs and found this extremely beneficial (see Results Chapters 13), there was no engagement with the Ward Committees. This is being seen as important from a government perspective as a means for ensuring local commitment to higher standards within schools. For pragmatic rather than evidence-based reasons EducAid will comply with this demand. The expectation would be that use of similar techniques as with the SMCs would be appropriate as they have a broadly similar demographic composition.

The Project Y schools worked together and with their SMCs to improve attendance at the beginning and the end of each term and each day. However, the data showed that teachers were still struggling to improve punctuality at the beginning and end of lessons (as noted in Chapter 13).

The programme required that all teachers stand in the doorway, one foot in and one foot out, of the classroom welcoming all children in to the class at the beginning of each lesson. Head-teachers were to require this behaviour and EducAid discussed the benefits with them. This was largely ignored in the intervention year but was subsequently adopted much more widely, possibly because it was discussed repeatedly, and possibly because it was role-modelled consistently by the facilitators at the beginning of all training sessions in 2017/18 and again in 2018/19.

This behaviour aligns with TSC's sub-standard 9.4 (Sierra Leone Teaching Service Commission (TSC), 2017) which requires good 'entry behaviour' and is a simple change in teacher behaviour that the head can drive. It becomes clear which teachers are starting lessons on time and as the heads increase their supervision and support, they can ensure that the teacher is not only on time and ensuring controlled entry of students into the classroom, but also has their classroom ready and tasks on the blackboard for a prompt start to learning.

If SMCs and Ward Committees (WCs) are trained in their responsibilities so they know the expected standards and can support punctual attendance at all crucial points in the year and week, it is anticipated that significant gains can be made.

Improved teacher subject knowledge

Creating a degree educated teacher workforce overnight is unrealistic, but if teacher literacy standards are improved, the content they know well will be delivered in better English and they will more accurately access any subject materials that are available. While there were no quantitative measures of this in the Project Y, teachers reported finding the reading circles useful to improve their reading and literacy confidence and competence. To address this issue reading circles with dictionaries and staff reading materials are proposed for all schools.

Participation in the reading circle meetings was often cited (see chapters 13 and 14) as being a strong contributor towards increased teacher confidence and competence. Those meetings can also become a forum for discussion of other issues.

Improved teacher pedagogical knowledge

In Project Y teachers found more complex approaches to pedagogy, for example collaborative learning, challenging. In a large scale roll out it would be a mistake to attempt anything too ambitious too early. However, with a focus on three areas found to be important in the Project Y, it is believed that impact can be achieved by:

- Training staff & school leaders in the use of positive behaviour management strategies & basic growth mind-set approaches.
- Training teachers in phonics and literacy teaching and how to scaffold children's independent learning with basic sentence practice exercises.
- Using simple maths games to break down fear and build up enjoyment of and competence in numerical skills would also be included.

To a large extent, new subject non-specific pedagogies emerge from a having a safer classroom. Teachers can be less defensive and create opportunities for dialogue if nothing else.

i. Mediating Approaches and Strategies

Having a Sierra Leonean team that use an 'alongside' not top-down approach to support implementation and behaviour change will continue to be the EducAid model. Role-modelling respectful relationships, professionalism and adherence to agreed expectations from the first stages of the project will also be central. Access to role-model schools will also be a feature, so teachers can observe new practices in action.

Establishing a small number of minimum standards agreed across all stakeholders including the community and then upheld by everyone will continue to be central. Fullan, (1996) argued that systemic change is not achieved by changes in policy but by people. When a critical mass accepts and expects different behaviours, they can become sustainable.

Learning from the importance of the networks of head-teachers, the north-west project will use those who have already participated and are proud of the improvements in their schools as momentum drivers. The Freetown City Council (FCC) project will use a similar approach with heads in another QEP leadership project in Freetown that is taking place in 2018/19. The heads participating in this ten-school project with EducAid are expected to take the lead within the FCC project.

The project steering committee will comprise members of the heads' network, key education stakeholders from within the FCC, the TSC and the Ministry of Education. If these authority figures do not participate, all other work will be lost as has been seen elsewhere (Samoff et al, 2011). With smaller scale projects, such as the Project Y, it was important to engage with the local authorities and SMCs (Chapter 13). As part of the scale up, the active involvement of the relevant authorities will also be important.

j. Elements from the Project Y that will have a lower profile in the roll out

Particularly complicated to deal with were collaborative pedagogies. These will be set aside awaiting future opportunities.

Techniques that EducAid characterises as 'nobody left behind' approaches which encourage collaboration over competition are very important but require considerable adjustment in thinking. They would not be included in the early phases of any roll-out.

The more complex aspects of Growth Mindset approaches will also be left to a later stage. Teaching that everyone can grow their brain (the incremental theory of ability described by

Dweck, (2006)) will enable teachers to understand the basics but probably the complexities of teacher talk that needs to change will be beyond immediate reach.

While marking exercise books is clearly crucial to give children the feedback they need in order to improve, it is seen as such a big cultural change that there is likely to be a staged approach to introducing this. If teachers start by setting minimum standards for how to keep exercise books and conduct in-class checks, a second stage can be how to mark effectively and how to set up learning activities that require different levels of marking so that the task of marking can remain manageable.

It is anticipated that changes will come not from completely ignoring aspects so much as staging them more clearly and agreeing priorities from the outset.

k. Training the trainers

Rigorous evaluation will be essential to any improved understanding of the impact of the proposed roll-out programmes. An experimental design with randomised sampling would be ideal, but may be resisted by donors, schools and the Ministry of Education. More realistically, experience in Project Y demonstrated the importance of more robust training of the trainers, particularly in data collection. Some early attempts have been made to use mobile phone data collection tools (kobo toolbox and google forms) which eliminate the need for later transcription, facilitate analysis as soon as the application synchronises when the phone goes online and makes immediate assessment of quality and detail of information much easier. More practice will be necessary in the training to ensure that each member of the team is able to contribute effectively.

This links with another aspect of additional training that the trainers will need. Lack of accurate records of meetings, observations and decisions, makes reflections on practice very difficult. The Project Y intervention team did not fully grasp the importance of this. Not surprisingly, nor did the head teachers. If the training team lack the necessary records for constructively self-critical reflection, they are unlikely to help heads develop their abilities in this area.

l. Coordination of implementing partners

In order to deliver these projects, EducAid will work with other organisations. Ownership by the relevant authorities and stakeholders is important. Strong coordination and oversight will be vital. The organisations involved have already had some experience of working

together and will spend several weeks training all of their leaders together. This will mitigate any potential differences and reduce negative competition or conflict between groups.

m. Conclusion

In conclusion, EducAid expects to work with a steering committee to respond positively to the requests and design interventions based on their learning so far and is excited at the opportunity to support enhanced teaching and learning across a larger part of the country. The anticipated challenges lie not only in securing the funding for both projects, but also in securing local ownership of the project across a larger area, coordination of all stakeholders as well as across the implementing partners.

Chapter 17 – Conclusions & Recommendations for Further Research

a. Introduction

Chapter 17 draws the thesis to a close with a summary of the major findings, a discussion of the limitations in the study and recommendations for further research. The thesis makes use of an innovative quasi-experimental design, using impact and process evaluations of a CPDL based whole-school improvement programme in Sierra Leone, one of the poorest countries in the world with among the lowest educational standards.

b. Major Findings

This thesis aimed to:

1. *Assess evidence of EducAid schools' effectiveness*

Using limited public exam data, proxies for socio-economic status, EducAid's internal systems data and some external feedback, EducAid's apparent success was interrogated, providing limited evidence that it would not be irresponsible to respond positively to a request for EducAid teachers to provide CPDL programming to other lower performing schools.

2. *Identify features of EducAid practice that government schools might adopt;*

EducAid's mediating practices were explored for potential transferability and a list of elements were identified that could constitute the basis for a CPDL programme through which EducAid could support improved teaching and learning in partner schools.

3. *Design a CPDL programme for Sierra Leonean teachers*

A CPDL based school improvement programme was designed. This programme is known as the Quality Enhancement Programme (QEP) as it aims to support the enhancement in quality of teaching and learning for whole-school improvement. The design drew on EducAid's key mediating practices and on literature on school effectiveness and school improvement, developing professional capital (human + social + decisional capital) and on education in Sub-Saharan Africa in general and in Sierra Leone, in particular. The programme included (i) a two-week initial programme with one week focusing on literacy teaching and one week focusing on numeracy teaching. Interwoven with the literacy and numeracy were the key concerns of positive behaviour management, gender equality,

teaching for independence and ambitious standard setting and (ii) strong in and out of school follow-up support to the leadership, all staff and the community / parent bodies associated with the school.

4. The programme's impact on students' progress

The outcome data in Chapter 8 appear to indicate impact through the CPDL on some important performance indicators: attendance and literacy. The difficulty is how to explain these bearing in mind the very limited uptake of new practices in the classroom. Returning once again to the Bold et al., (2017) tripartite analysis of key areas to be addressed in meaningful school improvement programming (i) improve teacher-student contact time; (ii) improve teacher subject knowledge and (iii) improve teacher pedagogical knowledge, the authors provide a framework to understand what seems to have happened. While there may have been some positive impact on student outcomes through increasing teacher time, there is enormous work to be done in terms of subject and pedagogical knowledge. Teacher contact time improved through making the schools feel safer because of improved relationships at every level. Of particular importance were replacing the cane with positive behaviour management techniques, and the engagement of all staff, students and the parent body in ensuring teachers and students were in class for far more of the year than before.

5. Explore the possibility of programme delivery by local and largely untrained teachers;

The EducAid teachers who delivered the CPDL and who collected the data were largely untrained as teachers and researchers, only one having completed a piece of empirical research during his undergraduate degree. They therefore lacked the exposure and experience that might be expected in a teacher-training programme. They were experienced at delivering the EducAid model and were trained by me to deliver the CPDL and to collect the data. The indications were that having a Sierra Leonean team with greater understanding of local cultural sensitivities and the ability to speak Themne and or Krio was appreciated by the beneficiaries. This also role-modelled the reality that Sierra Leone could provide answers to its own solutions and did not need to wait for help from foreigners with their own aid agendas. What was lost in experience was gained in local knowledge and sensitivity as well as affordability, improving potential sustainability of such a programme.

6. *Throw light on aspects of the programme that participants saw as strengths and weaknesses.*

The most apparently successful component of the programme was the improvement across the board of respectful relationships between all those within the school and between the various Project Y schools. Mediated firstly by training the teachers in alternative methods of behaviour management in order to facilitate alternatives to corporal punishment, and then by establishing agreed expectations and common minimum standards to be upheld by all sectors of the school community, the attendance of head-teachers, teachers and children improved. There was some improvement in providing opportunities for students to engage in tasks other than copying and much more exposure to and use of English but otherwise little pedagogical improvement. Role-modelling many behaviours during the workshops, during visits to the role-model schools and generally in all meetings and encounters was crucial as a pedagogy. Where it was insufficiently practised, for example with introduction of growth mindset and ‘nobody left behind’ ideas the uptake was minimal.

More clearly staged approaches when introducing complex ideas are important but also providing more opportunities for practice is vital. Having seen the importance of involving the community in governance and demanding and upholding minimum standards for teacher behaviour, future QEP iterations will develop this component.

With some qualifications, I have argued that the ambitious aims of the research were achieved, at least in part. A significant qualification to this claim was the failure to take sufficient account of the difficulties in introducing new pedagogical practices; in future projects they should be introduced more gradually and with more opportunity for practice, both outside and in the classroom.

c. Limitations in the research

Quasi-experimental design

A quasi-experimental design was the best and most appropriate evaluation design in the circumstances and is innovative in that it is the first QED of a CPDL based school improvement programme in Sierra Leone using impact and process data. It is, however, acknowledged that more robust conclusions could be drawn with a stronger design including a design with randomisation of the control and comparison groups of schools, which in this case was impossible for political reasons

Small sample

For more robust conclusions, a larger sample size would also be needed. With a larger sample and randomisation, stronger causality could be claimed if the impact is found to be positive. The sample in this evaluation consisted of five intervention schools and two groups of five comparison schools each. These turned out not to be equivalent at baseline, further limiting any potential claim of causality in outcome data.

Working through a relatively young team with no research experience or formal teacher training

On the one hand I have argued that having an affordable, local team had advantages to it in terms of cultural appropriateness and sensitivity. On the other hand, it must be acknowledged that the team lacked the experience and exposure to pedagogical thinking and research methodology that would normally be expected.

d. Priorities for further research

This research suggests a number of areas for further research. They include:

Building up a stronger data base from expanded studies

For any strong causal claims to be possible about the value of this respectful relationship-focused approach to school improvement, much larger samples for intervention and comparison groups would be needed and the schools (and students within them) would need to be randomly selected. QEDs can add perspective and insight and limited causality but cannot demonstrate strong causality. A strong RCT could contribute to understanding about school improvement in Sierra Leone and potentially other anglophone Sub-Saharan African countries.

Validating parental status as a proxy for disadvantage – new projects or EducAid data

When assessing the likelihood that EducAid had a more or less disadvantaged student intake than schools nearby, a proxy for socio-economic disadvantage was used. Students in a particular year group across EducAid and two nearby schools were asked who their guardian was (parent, other family member, friend, themselves) and to find out if they had one or both parents alive. Research to validate this as a proxy could prove useful for creating equivalence in school populations as a pre-requisite to understanding the impact of interventions or practices in schools with students from different socio-economic backgrounds.

The impact of living in the school

Many EducAid students live in the school. There is debate but not much rigorous research investigating whether the extended family is necessarily the best place for children who are unable to live with one or both parents. Impressionistically, live-in students in EducAid seem to have better educational and often social outcomes than day students. Less impressionistically, day students tend to be less disadvantaged because most resident students have no immediate family able to care for them. What are the mediating factors to this perceived success and is the difference in success genuine? UNICEF base their anti-orphanage stance on studies that Mercer (2014) has argued are biased and limited in number. EducAid has seen how some children living with relatives can find themselves in very vulnerable situations. For example, UNICEF's approach seemed to cause significant challenges, including exploitation and abuse, for some orphans going to impoverished relatives after the Ebola crisis.

As a result, where possible, EducAid has sought to provide a safe home for the child and a relationship with the family that was not one of dependence. Research into the relative benefits of living with family, versus living in the school while retaining a relationship with the extended family, could provide useful insight on this debate.

Role-modelling by teacher educators

The impact on their behaviour of having a role-model to imitate was discussed. This reinforced the importance of the participants having a role-model in the training team, the head-teachers providing a role-model to their staff, and the teachers to their students. Logic might suggest that the importance of teacher educators role-modelling techniques would be obvious. Lunenberg, Korthagen, & Swennen (2007) found, however, that little research had been done into modelling by educators of the new educational practices they were introducing. Role-modelling at every level of the intervention became an important way for the EducAid team to work. Role-modelling is key in reflective learning as well as providing an example of hard to imagine practices. It appears to have been missing from most CPDL programming. An exploration of its role as a mediator of successful CPDL could contribute to the school improvement literature. This could become important for future research in Sierra Leonean and Sub-Saharan African education.

Developing Community – School links for improved student outcomes

The improved relationships between community and school were so universally welcomed that this area could be developed. There are other models of parental engagement in western contexts for improved student and family efficacy (Lindsay, Strand, & Davis, 2011) that could be adapted and trialled with potentially important gains, just as have been experienced in higher-performing contexts.

Growth mindset approaches

That growth mindset approaches proved counter-cultural to implementation despite being enjoyed as theoretical concepts suggests that this would be a fruitful area for exploration. How might the ideas be made more easily accessible and practicable for realisation in the classroom? How might practical lessons learned elsewhere be adjusted to the Sierra Leonean context? Bearing in mind the traction these concepts have gained and the impact on student outcomes seen in the UK and elsewhere, this seems like a highly valuable component for future teacher-training programming in Sierra Leone.

Extrinsic versus intrinsic motivations for learning

Idealistically, I have a preference for intrinsic motivation for learning, although I acknowledge the extensive debate on this issue. However, both in EducAid schools and in Project Y schools, students and teachers reported the value of extrinsic motivation through the awarding of stars and Ubuntu stars. Further analysis of the benefits of extrinsic and intrinsic motivation in this context, and how to appropriately draw on both in low-income country classrooms – and also in CPDL programmes – could contribute to understanding of school effectiveness in Sierra Leone. A particular component of this might be an exploration of the use of gamification (whether digital or not) as this seems to exploit more extrinsic motivators than intrinsic.

Like most research, this project raised as many questions as it answered. For EducAid staff, and for me, that was frustrating, but also satisfying. So, we are planning to build on lessons learned from it.

'since wars begin in the minds of men [and women], it is in the minds of men [and women] that the defences of peace must be constructed'. No defences are more secure than public attitudes grounded in tolerance, mutual respect and commitment to dialogue. These attitudes should be actively cultivated every day in every classroom across the world. Using schools to vehicle bigotry, chauvinism and disrespect for other people is not just a route to bad education but also a pathway to violence. (Irina Bokova in UNESCO, 2011 pii)

In a small way, this work aims to contribute to a much-needed rhetoric of education in mutual respect as the foundation for all other education.

Section 7

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Section 8

Appendices



Appendices

Please note that for the sake of clarity, appendices are named in line with the chapters in which they are first mentioned. For example, the detail of the CPDL programme is in Appendix 8 which is the methods chapter in which the CPDL design is discussed.

At the end of the appendices is a table of abbreviations used in the thesis and a glossary relating specifically to terms being used by EducAid in its own schools and outreach school-improvement programming, acknowledging that many terms have different meanings in different contexts.

Appendix 3 – Conference papers for teacher-led randomised control test projects

C. Comparing the impact on student literacy levels of reading to a doll, reading to a partner and reading alone.



Reading to a doll is less effective than reading alone or reading in pairs - findings from a small-scale randomised controlled trial

Is there any impact on middle primary age children's reading fluency and competence of them reading to a doll or to a partner as opposed to reading alone in Sierra Leone?

Miriam Mason - EducAid Rolal (Port Loko District) & EducAid Freetown (Western Area)



RESEARCH PURPOSE

The purpose of the research was to investigate the impact of reading to a doll, or reading to a partner, versus reading alone. Specifically, it aimed to establish if there were any effects on children's reading fluency and competence. The research took place over a four week period for 30 minutes every day.

EducAid works with young people who are usually the first generation in their family acquiring an education and who do not have books at home. Accessing reading material is difficult and children are learning to read in their second or third language. There is not much of a reading culture in the communities in which we work. EducAid wanted to investigate strategies that have been found useful in supporting the development of reading fluency and the enjoyment of reading. There is some evidence, in more westernised and first language English contexts that reading out loud and sometimes to a pet (le Roux, Swartz, & Swart, 2014) or doll, can strengthen children's reading competence. EducAid wanted to investigate the possibility of using similar strategies within a resource constrained, ESL context. With a view to using these ideas across its teacher-training programme with teachers from over 70 primary schools, EducAid wanted to gather evidence of the usefulness of the different strategies in its own primary schools first.

THE RESEARCH DESIGN

A between-participant design with pre- and post- tests was used. The independent variable (IV) was operationally defined by creating 3 conditions (Figure 1):

- Independent Variable Level 1 (Control condition): reading alone
- Independent Variable Level 2 (Experimental condition A): reading to a doll or soft toy
- Independent Variable Level 3 (Experimental condition B): reading to a younger child

Figure 1. Research Design



Dependent variables were used to assess reading fluency and competence (pre- and post-intervention):

- DV1: Basic literacy test, which while testing at the sound, word and paragraph level, also provides a standardised aggregate score that can be compared easily pre- and post-intervention.
 - DV2: ASER style test which provides categorical results. Children are classified as being at one of three proficiency levels: letter/sound; word; paragraph or story.
- After the controlled trial, focus group discussions were undertaken to understand more about how the students felt about the different ways of working and to more fully understand the differences identified.

Hypothesis:

Reading to 'somebody' (alive or not) will help children engage differently and will have a positive impact on their reading fluency.

METHODS

Participants, sample size and randomisation

100 children in 4 Class (4 classes from 4 primary schools (Table 1)) were randomly allocated to either the control or doll, or partner reading groups. For each class, the names of each girl and then each boy were pulled out of a hat in order: control, doll, younger child, until all children had been allocated (so that, for each class there were groups of approximately the same size for each IV level). The girls and boys were selected in equal numbers, as far as possible, to each category in order to minimise any bias due to gender.

Table 1. Number of pupils in each class

	Mathele	Masorie	Mafimba	Maronka
Female	27	11	7	9
Male	12	9	8	19

Procedures

A literacy test and a reading fluency test were administered to all participating children in the week before, and during the week after the four-week intervention period. Each class had a group of children that had been randomly allocated to either read alone, read to a doll or read to a younger child. The children allocated to the read to a doll group made their dolls from basic materials and named them. Each afternoon for a four-week period (i.e. 20 school days), during the last half an hour of the day before their end of day registration, the groups undertook their reading. Reading books were selected and it was ensured that the mixture of reading materials in each class were the same, or nearly the same.

Materials (and apparatus)

ASER tests and a basic literacy test were used for pre- and post-test assessments. Both tests assess development along a literacy development scale going from sounds and letters to words to paragraphs to stories.

- Boxes of assorted children's books.
- Standardised instructions to teachers for each of the groups.
- Materials to make dolls: plastic bags, sticks and markers etc.

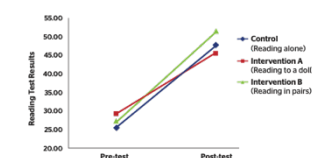
LIMITATIONS

While everything was done to standardise the procedures and limit variation between the schools, inevitably, with different teachers, class sizes and locations there were extraneous variables that were hard to eliminate completely (e.g. fidelity to the 30 minutes reading time, classroom environment being conducive to reading, the types of books that were available). In addition, the children made their own dolls which meant that there were differences between dolls. This may have resulted in different engagement and reactions. The sample size was small so the findings can only be understood as indicative of what might be found in a larger study.

RESULTS

DV1: Gain scores were first calculated from pre- and post-test results (Figure 2).

Figure 2. Pre- and post-test results for the three conditions in the present study



An initial two-tailed Kruskal-Wallis ANOVA indicated that the effect ($w = 0.36$) across all three conditions was significant suggesting that it was unlikely to have been caused by family-wise error ($p = .009$). This was followed by separate one-tailed Mann-Whitney U tests to compare the different conditions with each other (Table 2).

Table 2. Effect sizes, confidence intervals and p-values

comparing the effect of the different conditions with each other

	Control vs Intervention A	Control vs Intervention B	Intervention A vs Intervention B
Effect size r [d]	-0.37 [4.78]	0.10 [0.20]	0.40 [0.85]
CI (95%)	-2.37 to 1.63	-2.50 to 2.70	-2.09 to 2.89
p-value	.0004*	.279	.006*

*Significant with $\alpha = .0167$

DV2: The children's reading levels were also recorded pre- and post-test (letter, word, paragraph, story) this data showed similar trends in progression.

CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Existing practice (reading alone) was notably better than reading to a doll (Intervention A) (a significant moderately large effect size difference). Reading in pairs (Intervention B) was also significantly more effective than reading to a doll. These effect sizes were large enough for the results to be significant, despite the small sample size and a Bonferroni adjusted alpha. A small non-significant positive effect was found for reading in pairs compared to reading to a doll. From this small sample trial, we found that reading to a partner results in better progress in literacy than reading alone. It was also better than reading to a doll. Further replication will be needed to establish the findings in this study and increase sample sizes. However, if these findings were to be replicated in a range of different contexts with larger sample sizes, the implications could be that teachers should regularly provide opportunities for children to read in pairs.

D. Comparing the impact of materials with only content-based learning activities with the impact of materials with higher-level thinking and values-based learning activities on student learning and retention.



Does providing higher-level thinking opportunities have an impact on student learning outcomes?

An experiment in the use of enhanced learning materials promoting higher order thinking skills in a group of schools in Sierra Leone

Miriam Mason - EducAid Rolal (Port Loko District) & EducAid Freetown (Western Area)



PURPOSE OF THE RESEARCH

EducAid has traditionally sought to provide opportunities throughout its curricular and extra-curricular activities and learning programmes that specifically seek to develop more than the basic knowledge level of its students. EducAid's vision and values require much more than this. The purpose of this research was to evaluate the impact of learning materials that specifically seek to provide higher-level thinking opportunities and opportunities for the development of the EducAid values on student learning outcomes in the short and medium term. The focus of this research was not so much to assess whether or not the values component of the education were achieved but to see what the impact was on the academic learning of using these enhanced materials.



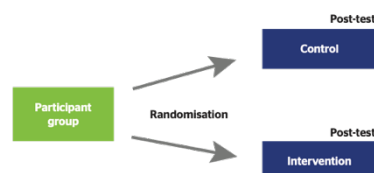
THE RESEARCH DESIGN

A between-participant randomised controlled trial with a post-test only was used.

The independent variable, the use of 'enhanced learning materials that specifically aim to provide opportunities for higher-level thinking and the development of EducAid values', was operationalised with two conditions:

- IV Level 1 - Control condition: use of traditional materials focusing on factual recall
- IV Level 2 - Experimental condition: using specially designed 'enhanced' learning materials

Figure 1. Research Design



Dependent Variables (DV): A Unit Test was used. The Unit Test provided % scores which were averaged and compared. The Unit Test was administered post-test as well as 1 month later to determine the impact of the different materials on the retention of knowledge as well as on the initial learning.

Hypothesis:

The use of materials that specifically aim to provide opportunities for higher-level thinking and the development of certain values has a positive impact on the short and medium-term cognitive learning outcomes of students.

METHODS

Participants, sample size and randomisation

Two schools in Sierra Leone took part in the research: two groups of students (one group of 8 and the other of 26), none of whom had yet studied the unit of work 'Agriculture in Economics'. Students were randomly allocated to either the control group or intervention group. The students studied using either traditional materials in the control group or the enhanced materials in the intervention group.



Procedures

All students were given the same Unit Test after two weeks and the same test one month later. Studying took place in a way that the students were used to (i.e. sitting in small groups of 10 - 12 youngsters for a lesson period of 1 hour 30 minutes during which they work through pre-prepared materials independently). Students could ask each other for help and resort to a teacher for support, if their colleagues could not answer their query. The students could take the study materials out of the class and work on them independently as homework (as this is part of their normal procedures). The students were kept unaware that there was anything different about these materials. They just knew they were participating in research to support better teaching practices.

Two economics teachers in two schools guided the two groups of students and supported them in the same ways as usual over a two-week period. They then administered the usual unit test to the students on the second Friday after school. The students' results were averaged and compared. One month later, the same test was administered after school on the 6th Friday after the beginning of the trial.

Materials (and apparatus)

- Traditional unit materials on Agriculture in Economics
- Enhanced unit materials on Agriculture in Economics.
- Agriculture in Economics Unit Test.

LIMITATIONS

It is not known how much private independent study each student undertook. This might have affected the outcome but as the students were randomly selected to each group this should have been eliminated as a major difference. The sample size was relatively small and so generalisation of the findings is difficult.

RESULTS

Figure 2. Control and intervention scores for the present study research (fact-based learning versus higher level thinking)

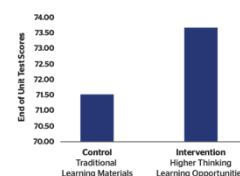
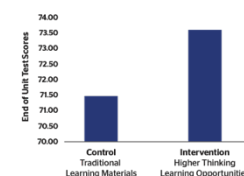


Figure 3. Control and intervention scores at re-test, one month later (fact-based learning versus higher level thinking)



CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

On average, in this small sample trial, students who used more traditional fact-based learning materials achieved lower scores in both the immediate unit test and in the delayed test than those using materials with higher level thinking opportunities. This initial RCT only provides a basic indication of the impact of this type of materials on students' learning. To be able to generalise further, many more trials would have to be done with a range of different topics and with larger numbers of students. This was a preliminary trial to find out if what EducAid believes is true and if it is then to illustrate a point and support teachers unused to this way of self-evaluating in their own professional learning.

Appendix 4

A. The SDG4 Quality Education Outcome Targets & Means of Implementation (UNDP, 2017)

Outcome Targets		Indicators
Target 4.1	By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	4.1.1 Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary education; and (c) at the end of lower secondary education achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex
Target 4.2	By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	4.2.1 Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex 4.2.2 Participation rate in organized learning (one year before the official primary entry age), by sex
Target 4.3	By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex
Target 4.4	By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill
Target 4.5	By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations	4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated
Target 4.6	By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy	4.6.1 Percentage of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex
Target 4.7	By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development	4.7.1 Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment

The SDG4 Quality Education Outcome Targets & Means of Implementation continued

(UNDP, 2017)

Implementation Means		Indicators
Target 4.a	Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all	4.a.1 Proportion of schools with access to: (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities
Target 4.b	By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries Scholarship	4.b.1 Volume of official development assistance flows for scholarships by sector and type of study
Target 4.c	By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States	4.c.1 Proportion of teachers in: (a) pre-primary; (b) primary; (c) lower secondary; and (d) upper secondary education who have received at least the minimum organized teacher training (e.g. pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country

Appendix 8

A. Description of CPDL initial two-week programme

Prioritising literacy and numeracy to build a strong foundation for other learning

The first week focused on learning techniques for teaching literacy and the second week on techniques for numeracy.

Literacy week

The literacy week focused on a literacy skills acquisition system that progresses from sounds and letters, to words, to sentences, to stories as in the ASER³³ literacy tests (PrathamUK, 2013).

Having ensured that all teachers could:

- a. Identify all the 42 sounds in the English language and
 - b. Break words into their component sounds and build the sounds back into words,
- a variety of techniques and games so teachers could communicate this key knowledge to their students in fun ways. The importance of immediately recognising progress was emphasised. Teachers were taught to recognise and celebrate progress and help the children to understand their own progress.

The teachers of classes 1, 2 and 3 were taught to spend time each day on:

- learning one new sound,
- revising the previous sounds,
- immediately learning how to blend the sounds into words,
- identifying words with the new sounds at the beginning, middle and end of the word,
- constantly reinforcing the understanding of sounds as the building block for all words and therefore all language.

Teachers learned to introduce a new sound every day from Monday to Thursday and on Friday to revise and reinforce and then learning some 'tricky words'. Tricky words in the Jolly Phonics methodology (Jolly, 1989) refer to words that do not follow the rules, for example *the, I, she, we, come, as*. With one or two tricky words the children can immediately be taught to build simple sentences. e.g. '*I sit in it.*' is a whole sentence that children could read and write after learning only five sounds.

In the upper primary classes teachers learned to teach a few sounds per day. It was expected that within three or four weeks they would have covered all 42 sounds. They would also have learned how to blend the sounds and build them into simple words or to break down words into sounds and therefore work out how to spell them.

Teachers then learned how to use some simple, somewhat formulaic but easily replicated techniques for scaffolding learning for independent writing. Rote learning and copying from the board is the main student activity in a traditional Sierra Leonean class (Gbamanja, 2012) so alternative approaches are essential if teachers are to move away confidently from this way of teaching. The CPD included showing teachers how to teach children to write their own sentences by, for example:

- Punctuate wrongly punctuated sentences e.g. to add a capital letter to start, a full-stop at the end and to make sure there were no other capital letters at the beginning of a name.

³³ Aser means impact in Hindustani.

e.g. *tHe cat is On the MAAt* becomes *The cat is on the mat.*

- Un-muddle mixed words to make a correct sentence.

e.g. *the the is in boat pig* becomes *The pig is in the boat.*

- Orally finish a given sentence prompt.

e.g. *On Monday....* Or *She likes....*

- Using similar prompts to the oral prompts, to finish a given sentence prompt with the correct punctuation: beginning with a capital letter and ending with a full stop.
- Orally starting a sentence with a given ending.

e.g. *..... in Freetown.* Or *..... every day.*

- Writing simple captions for pictures.

e.g. *The man is cooking.* Or *It is wet.*

Teachers were further taught how to develop story-telling and extended writing skills by, for example:

- Re-ordering muddled sentences to make a logical story.
- Drafting and re-drafting.
- Using the 'Tales Toolkit' (Shelley, 2016) .

The Tales Toolkit is a series of four potluck bags out of which a student pulls an object per bag for the elements of a story they will then create, in other words, one item each from a character bag, a setting bag, a problem bag and a solution bag. This can be done with very simple every day materials: 'Mr Stone' can as easily be the character as 'Tina Toothbrush' can be the problem or indeed the solution. The teachers learned that the tales toolkit can become an effective way of exercising the imagination and creativity as well as providing opportunities for developing empathy as the class discuss how they would feel if they were the protagonist or in a similar situation. If started with the very small children telling stories orally before moving on, as one goes up the classes to support story writing, this is a useful and simple tool.

On return to their schools, teachers were strongly encouraged to:

- Teach one sound per day from Monday to Thursday, with a few tricky words and some revision each Friday. Accordingly, the children should have learned all of the 42 sounds within 11 weeks of first starting to read and write.
- Help the children understand the relationship between sounds, words and sentences straight away and build whatever funny words and entertaining simple sentences they enjoy making as quickly as they can. E.g. *The pig naps on the pot.* Or *The rat is hot.* Or *I like fat cats.*
- Help children be aware of their own personal knowledge and learning by all children having their own individual word bag into which they could put the words that they had personally mastered.

Numeracy week

The numeracy week was designed to reassure teachers that maths is possible; it can be fun; there are techniques that they can learn and accordingly pass on to their pupils. Play was used to reduce tension and help the teachers build confidence and understand less-threatening ways of teaching and learning maths concepts.

The focus for the five days was to teach the teachers:

- a. Lots of games they could replicate that reinforce basic mathematical principles: the four main maths calculations: add, subtract, multiply and divide. There was a mixture of games on the board, games in pairs, games in small groups etc.
- b. Active versus passive learning. Bonwell and Eison (1991) define active learning as *“instructional activities involving students in doing things and thinking about what they are doing”* and Brame (2016) who explained that *“Approaches that promote active learning focus more on developing students’ skills than on transmitting information and require that students do something—read, discuss, write—that requires higher-order thinking”* (Bonwell & Eison, 1991 p5; Brame, 2016 p1). EducAid has sought to encourage the teachers to overcome their own and their students’ fear of maths with more active and participative techniques.

The teachers learned techniques such as Read, Cover, Write and Check (RCWC). The Read, Cover, Write, and Check technique involves teaching the learner to read through several times the content they desire to learn, to then cover this material, hiding it from themselves. They then endeavour to write as much as possible of what they can remember from their reading and then uncover the original to compare and check how they have done.

This was taught experientially, and the teachers used this technique themselves to learn the seven times table. Experience has taught the EducAid facilitators that very often primary school teachers do not know their seven times table well. In an initial rapid test after just looking passively at the numbers for a few minutes, many teachers got extremely low scores. After they had spent a few minutes using the active RCWC method they saw that nearly everybody got full marks, even those who considered themselves to be very weak at maths.

Testing each other was also practised and found to be a beneficial way of actively learning new material. It was pointed out that for certain things that just have to be learned by rote these methods can be useful in whatever subject context. It might be just as useful in learning vocabulary for agricultural science or social studies as in learning the times tables or number bond charts.

- c. Estimation was taught as a key way of checking whether one’s calculations are in the correct general range. Too often teachers and students make a simple error in their calculations and miss a wildly erroneous answer; because they had no real picture of what their answer would describe they could not easily detect their mistake. EducAid facilitators have found that the ability to estimate an approximate answer to a calculation is very helpful as a self-check measure.
- d. Measurement using irregular measures such as hand spans or finger widths was taught as was measuring with a ruler and a tape rule. Experience has taught the EducAid team that all of these skills are lacking for most teachers as they have never been taught

them. After a while with practice, the teachers could estimate the length or breadth of an object and then check with an accurate measurement tool.

If two-dimensional measuring was initially challenging, estimating and measuring volume was even more so. Nevertheless, activities using measuring jugs, containers of known volume, displacement activities and a lot of water set out carousel style around the classroom had previously timorous teachers participating with great enthusiasm and enjoyment.

Carousel style learning, if class control is good, engages the children in managing their own learning, taking responsibility for completing tasks on time, and teamwork. The teachers also discussed how carousel style classroom management encouraged active learning.

e. The key SI Units (Système International d'Unités, 1960) were taught as many teachers are unclear on the relationships between milli-, centi-, kilo- and the various SI units for length, volume and mass. Teachers undertook activities that engaged them in transitioning readings between the different unit scales, for example 1m is 100 cm or 1000mm or 0.01km.

f. Place value. The teachers were taught two methods of teaching place value and how to ensure the maintenance of the correct place value during calculations. Once again, this is a key concept that causes endless difficulties when misunderstood or poorly mastered (Maths Australia, 2019).

At the end of both the literacy and numeracy week the teachers participated in a run around quiz³⁴ covering the material that they had learned. Again, this role modelled an activity they could use in their own classrooms with minimal equipment. Teachers were taught about the testing effect (Roediger & Karpicke, 2006) and the potentially beneficial impact of testing recently learned material, if not overdone.

Pedagogy and mutual respect

An early session in the initial workshop had one trainer role-playing an aggressive and offensive teacher, treating the participants with barbaric disregard for approximately seven minutes. They afterwards discussed how many of the adjectives they have subsequently agreed describe how they want learners to feel (examples might be: encouraged, supported, safe, inspired, excited). They found, of course, that they felt none of these and then discussed how likely it is that their students would feel differently from them. This session became known as the 'Rhino Session' because at the beginning of the drama the facilitator pointed at an image of a rhinoceros on the board and says, 'I want you to think of me as you think of this rhinoceros. I'm the one with the power and I do NOT have time for any nonsense.'

Time was spent identifying subconsciously biased behaviours and attitudes, looking for opportunities to improve the chances of the girls participating equally in classroom activities and achieving high standards.

Teacher participants discussed the consequences and causes of girls' under-performance and achievement in school and then more importantly, strategies for addressing the imbalances.

³⁴ In EducAid, a 'run around quiz' is one where teams have to run to collect questions and return answers for 5 or 6 rounds. Because of the movement and the physical element of the competition it actively engages students.

Facilitators specifically focused on in-class strategies for more girl friendly education and teacher behaviour. The staff deliberately disturbed accepted gendered roles and behaviours. For example, the male staff dished and served the food; they deliberately encouraged female participation and disallowed the dominance of the discussions by more confident male participants.

- Higher level thinking and active learning:

The CPD included several sessions teaching the teachers how to devise higher level learning tasks rather than simply regurgitating subject content.

A simplified expression of Bloom's taxonomy (Vanderbilt University & The Center for Teaching, 2017) was used to raise the teacher participants' awareness of the issue of lower and higher order thinking. Most participants were unaware of the concept and considerable effort was required to help them design learning activities with opportunities for higher order thinking. At the end of most days, time was spent working in small groups designing higher-level thinking and learning opportunities.

Similarly, active and participatory learning was discussed and practised. At each step, the teachers were taught about the insufficiency of rote learning and spoon feeding subject content to their students (Filmer, Hasan, & Pritchett, 2006) and also how to use some simple different techniques that are easily replicated and involve the children in more thought provoking activities.

As well as delivering formal sessions focused on teaching higher level thinking and using active and participatory methods, at the end of an active learning session introducing a new idea they would reflect on how the technique had been used to engage the participants themselves. They discussed how they too could introduce new material and involve their own learners more actively and productively, (applying their learning to real life situations) if they used the same exercise types and activity design in their own classes as the team had used with them. This endeavour to engage the teachers in their own learning as well as to encourage their own students to use metacognitive strategies in thinking about their own learning builds on the work of researchers and practitioners such as Biggs (1985) and Watkins (2001).

- Mutual respect and other citizenship values:

To facilitate teachers' appreciation of the importance of mutual respect, the team specifically coached the teachers in how to work with the children to establish agreed expectations as had been done with them in the initial community engagement meeting and throughout the initial training workshop. The teachers learned how to use these mutual expectations to help children manage their own behaviour. Agreed expectations were used to manage the CPD sessions and teachers had to hold their colleagues to account when they did not comply: coming late, using their phones during a session, chatting about irrelevancies during an activity etc.

Discussions also focused on:

- a. the negative consequences of corporal punishment, for example, as expounded in the report of the Sierra Leonean Truth & Reconciliation Commission (2004): *'The use of beatings for purposes of correcting behaviour in schools legitimises violence as a means to control behaviour more generally. This message goes out to both children and adults. The message says that hurting others is acceptable behaviour. The consequence of corporal punishment is to encourage physical aggression throughout society'* (TRC 2004. p. 133). And:
- b. how to avoid losing all order in the classroom when withdrawing the cane. This was a concern that was raised in the very first engagement with the community and is not

uncommonly heard where NGOs have insisted on human rights respecting standards but have failed to train teachers and community leaders in alternative ways of working.

B. Ubuntu Schools

Ubuntu – I am because we are.

The Ubuntu story:

An anthropologist told a group of Xhosa children that the basket of fruit at the foot of the tree a short distance off was the reward for the first one of them to reach and claim it. The children took each other's hands and ran together and shared the basket of fruit. When asked why they did not try and compete, they looked surprised and one said, 'How can I be happy when all those around me are sad?'

To qualify for an Ubuntu School certificate, a school needs to demonstrate the following:

- 1 All children know the meaning of Ubuntu i.e. I am because we are
- 2 All children know that Ubuntu therefore means sharing, loving, caring, respecting, generosity, kindness
- 3 Ubuntu time is spent in each classroom each day where children are asked to nominate their classmates for being the best friend because of certain acts they have done during the day – Ubuntu stars are awarded
- 4 Every week in devotion, staff celebrate those who have been particularly kind and who have the most Ubuntu stars.
- 5 Dramas demonstrating the principles of Ubuntu are carried out in devotion at least once per month.
- 6 Prizes are given to those children who get 25 Ubuntu stars
- 7 Corporal punishment never takes place but has been replaced by a positive behaviour management system with the focus on rewards not sanctions. Sanctions when required do not involve violence but require the culprit to put right, in some way, the problem they have caused e.g. a child who has disrupted the class with messing around must do something for the class e.g. fetch the drinking water or clean the class for a few days

These practices have to be sustained for at least 1 term.

C. QEP Checklist – Action list

Indicate how often each of the following would be seen in your schools?

Teaching strategy or practice	Never	At least once a term	At least once a week	At least once a day
<i>Teachers in your school:</i>				
use canes				
use humiliation to punish				
leave their class unattended				
come late to school				
go late to class				
ask pupils to punish each other				
make pupils repeat over and over again what is on the board				
plan active revision classes				
give the children do 3 x 5 sentences for sentence writing practice				
establish the agreed expectations for the class / group				
use the agreed expectations to remind students to take responsibility for each other's behaviour				
use the agreed expectations to remind students of what has been agreed				
stand in the doorway as children come into class				
ensure girls take leadership roles in class and school				
provide opportunities for higher level thinking opportunities				
use games in lessons				
use group work and create opportunities for collaboration				
use phonics knowledge in higher classes to support learning of new words				
encourage children to ask questions				
ensure the children write independently				
deliberately teach new vocabulary: meanings and spellings				
read out loud to the children and discuss stories				
encourage the children to read out loud				
encourage the children to read quietly and independently				
observe each other's lessons and provide feedback				
mark exercise books				
give specific and kind feedback to students				
use the tales toolkit for story-telling, drama, art				
check phonics knowledge in lower classes				
use word bags in early years classes				
use the Fred talk game for phonics teaching				

Teaching strategy or practice	Never	At least once a term	At least once a week	At least once a day
use the robot game for phonics teaching				
<i>Head of school:</i>				
observes each teacher's lessons				
checks lesson plans				
checks registers				
checks exercise books for marking and neat work, neat labelling etc.				
gives feedback to teachers about their teaching, behaviour management etc.				
makes a diary entry				
runs staff meetings				
actively trains staff				
delegates responsibilities				
informs other staff about developments, opportunities, programmes etc				
comes late to school				
<i>Add your own concerns</i>				

Appendix 9

A. Description of the literacy test

Simple activities testing competence at each of the above stages were designed:

- At sound / letter level, a series of images of objects commonly to be found in rural Sierra Leonean children's lives were given and children were instructed to write the sound or letter next to the image.
- At word level, two different types of activities were used:
 - 1 The children were required to match five images with the correct words from a list of five words.
 - 2 The children were requested to tick the words that fitted into a particular category, for example tick all of the animals on a list of five items that included two animals and tick all of the foods on a list of five items that included two foods.
- At sentence level, three different types of activities were used:
 - 1 To reorder some mixed-up words into a simple sentence.
 - 2 To place a given word correctly into a sentence to make it make sense. The sentences were in order of increasing complexity.
 - 3 To write any caption for a simple picture.
- At 'story' level the children were asked to write an informal letter.

B. Literacy test protocol

- Children are seated in such a way that they cannot see each other's papers and such that normal exam conditions prevail. Children are asked to cover their papers as they work as an additional precaution.
- The teacher distributes the test to the children and asks the children not to start until they are asked to.
- Each paper should indicate the child's:
 - a. School
 - b. Name
 - c. Class
 - d. Gender
- The children will NOT be expected to be able to complete the whole test. They should just do what they are able to manage. They can leave when they have finished what they are able to.
- The teacher should ONLY ask the children to follow the example in each exercise. They should NOT give any further instructions or explanations. If they do, this will distort the results and make them of no use to the process. It is really important that everybody understands this.
- It is expected that class 1 students may only be able to manage some of the page 1 questions whereas class 6 students will be able to attempt all exercises including the last question although they will probably not get full marks for it (or some of the other harder tasks) at this point. This is NORMAL and should not worry anybody. We just need a marker to show if things have changed as a result of the trainings or not.

C. Literacy Test













Child's Name: _____







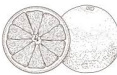



Class: _____

School: _____





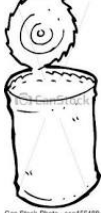
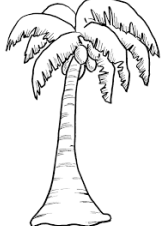
M/F _____

1 Write the correct starting sound for each image

	e.g. a
a. 	
b. 	
c. 	
d. 	
e. 	
f. 	
g. 	
h. 	
i. 	
j. 	
k. 	


l. 	
m. 	
n. 	
o. 	
p. 	
q. 	
r. 	
s. 	
t. 	
u. 	

2 Match each of these images with the correct word


	e.g. Car
	
	
	
	
	

- a. Camera
- b. Car
- c. Key
- d. Tin
- e. Tree
- f. Truck

3 Tick  the animals

Lion	e.g. 
Box	e.g. —
a. Lazy	
b. Lizard	
c. Lollipop	
d. Cow	
e. Table	

4 Tick  the foods

Window	e.g. –
Beef	e.g. 
a. Worm	
b. Rice	
c. Rats	
d. Fish	
e. Frog	

5 Reorder these words into correct sentences

The the tree. pig is under

e.g. The pig is under the tree.

- a. is in the box. A hen
- b. Where hiding? is robber the terrible
- c. The from Freetown. village far is
- d. the What car? colour is
- e. speak at school. English We

6 Insert the missing word to make correct sentences



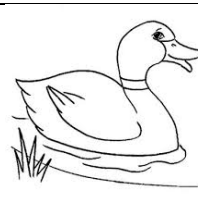



Freetown is capital city. (the)

Freetown is the capital city.

- a. There are districts in Sierra Leone. (thirteen)
- b. I like bananas they are ripe. (when)
- c. She has been working hard in for her exams. (preparation)
- d. They have been used to speaking in front of a crowd. (not)
- e. When people travel a lot they accustomed to meeting new people. (are)

7

Write a caption for each picture

 <p>a.</p>	<p>e.g. The man is cooking dinner.</p>
 <p>b.</p>	
 <p>c.</p>	
 <p>d.</p>	
 <p>e.</p>	
 <p>f.</p>	

8

Write a letter to a friend about your plans for next Christmas.

D. Literacy Test Marking Scheme

1 Either the sound or the word – correctly or incorrectly spelt – with the correct first letter = 1 mark per question

a.	B	k)	H/C
b.	D	l)	L
c.	P	m)	T
d.	F	n)	Sh
e.	M	o)	Z
f.	N	p)	j/sh
g.	R	q)	o
h.	G	r)	w
i.	U	s)	s
j.	C	t)	ch 20/20

2 2 marks for correct spelling and correct allocation

One wrong letter = 1 mark instead of 2

More than one wrong letter = 0 marks

No half marks in question 2

3 Ticks for lizard and cow. Dash or no mark or x for lazy, lollipop and table = 2 marks

No possibility of 1 mark or half marks in question 3

4 Same as rules in 3 except that c. Rats can be marked as food or non-food (a weakness in the test)

5 Full marks for correct order, starting capital and full stop

1/2 marks are lost for:

- No capital at the beginning
- No full stop / question mark at the end
- Misspellings
- Each misplaced word loses ½ mark

6 Wrongly placed word = 0 marks

1/2 marks are lost for:

- No capital at the beginning
- No full stop / question mark at the end
- Misspellings

7 1 = 2 correct words

2 = 3 or 4 correct words

3 = 5 correct words

4 = 6 or 7 correct words

5 = 8+ correct words

1/2 marks are lost for:

- No capital at the beginning
- No full stop at the end
- Misspellings

8 Up to 10 – correct address = 6 marks for address with 2+ lines, capital letters on all names, commas at the end of each line, full stop at the end.

1/2 marks are lost for:

- No capital at the beginning of any name
- No full stop at the end
- Misspellings

Date = 2 if correct numeration e.g. 1st, 2nd, 3rd, 4th and correct month spelling with capital

1/2 marks are lost for:

- No capital at the beginning
- No full stop at the end
- Misspellings

Greeting = 2 if capital D for Dear, comma after name, correctly spelt name and title: Mr, Miss, Mrs, Ms, Dr and capital on name.

1/2 marks are lost for:

- No capital at the beginning of Dear or name
- No comma after the name
- Misspellings

Up to 5 – correct ending and sign off = Yours sincerely / Your friend / Love from followed by a comma and name with a capital

3 marks lost if no sign off and only name given

1/2 marks are lost for:

- No capital at the beginning of the sign off or of the name
- No comma after the sign off
- Misspellings

Up to 10 marks = 3 correct simple sentences.

1 sentence = up to 3 marks

2 sentences = up to 6 marks

Up to 15 marks = 3 correct sentences with 6+ words.

(add 2 to the original 10 marks for each additional complex sentence i.e. 6+ words)

Up to 20 marks = 2 correct paragraphs.

i.e. separation between two sets of thoughts

2 marks lost for not forming paragraphs even if more than 3 sentences.

Up to 35 marks = 3 + correct paragraphs

i.e. separation between three sets of thoughts

1/2 marks are lost for:

- No capital at the beginning
- No full stop / question mark at the end
- Misspellings

E. Head teacher – Semi-structured interview schedule

Research questions to be answered by this interview:

- 4 How does the HT see the QEP in his school's work / performance / improvement?
- 5 How does the HT see his own role in the school and in the school's improvement?
- 6 How can the QEP best support him?

General intro – non-threatening intro questions

- 1 What do you most enjoy about being a head-teacher?

More probing questions

n.b. reassure that this is about understanding the current situation and how he would like us to work together. There are no right or wrong answers.

- 2 Can you describe a typical day / week, in terms of the jobs you do?
- 3 Have there been any changes in the school (changes in the ways teachers are working) over the last six months?

n.b. the following issues should come up so you need to prompt gently if they don't:

- a. Teaching and Learning – *are you happy with the teaching and learning at the moment? In what ways would you like to see this change?*
- b. Behaviour management – *are you happy with the behaviour and behaviour management at the moment? In what ways would you like to see this change?*
- c. Gender equality – *are you happy that the girls and boys participate and achieve equally at the moment? In what ways would you like to see this change?*
- d. Professionalism – sense of urgency – *are you happy with the professionalism (punctuality, commitment to deadlines, regular attendance, sense of urgency etc.) of your teachers? In what ways would you like to see this change?*
- e. Staff relationships – *(how) do the staff support each other professionally? In what ways would you like to see this change?*
- f. Staff performance management – *do you have a structure for managing staff performance and supporting improved performance and behaviours? In what ways would you like to see this change?*

- 4 How do you see your involvement in achieving the changes you would like to see in the school over the next year +?

If necessary, prompt discussion with questions such as:

How much do you know about the detail of what your teachers do? What involvement do you have in managing teachers?

And if necessary: what involvement do you have in how teachers: Teach? Manage behaviour? Manage their classes for gender equality? Prepare children for exams or for the next class? Work as a team? Support each other?

- 5 Are there areas of your own performance that you would like to improve? As a teacher and as a head-teacher?

If necessary: What role could QEP play in helping you and the school to achieve the changes you want?

- 6 Is there anything else that you would like to add? Anything else you think we need to understand?

F. **Teacher – Semi-structured interview schedule**

Research questions to be answered by this interview:

- 1 How does the teacher see the QEP in her/his school's work / performance / improvement?
- 2 How does the teacher see her/his role in the school and in the school's improvement?
- 3 How can the QEP best support her/him?

General intro – non-threatening intro questions

- 1 How did you get in to teaching?
- 2 What do you most enjoy about being a teacher?

More probing questions

n.b. reassure that this is about understanding the current situation and how she/he would like us to work together. There are no right or wrong answers.

- 3 If somebody visited your school last year and then visited again next year, what differences would you expect and like them to see? (Can you describe the school last year and your hopes for it next year in detail.)
- 4 If somebody visited your class last year and then visited again next year, what differences would you expect and like them to see? (Can you describe the class last year and your hopes for it next year in detail?)

n.b. the following issues should come up so you need to prompt gently if they don't:

- a. Teaching and Learning – *are you happy with the teaching and learning at the moment? In what ways would you like to see this change?*
- b. Behaviour management – *are you happy with the behaviour and behaviour management at the moment? In what ways would you like to see this change?*
- c. Gender equality – *are you happy that the girls and boys participate and achieve equally at the moment? In what ways would you like to see this change?*
- d. Professionalism – sense of urgency – *are you happy with your professionalism (punctuality, commitment to deadlines, regular attendance, sense of urgency etc.)? In what ways would you like to see this change?*
- e. Staff relationships – *(how) do the staff support each other professionally? In what ways would you like to see this change?*

5 How do you think the school can achieve the changes that you are describing? *(assuming she/he does expect change! and if this has not already been talked about above. n.b. this is a slightly different question: how to achieve the change not what change!)*

6 How do you see your involvement in achieving the changes you would like to see in the school and in your class over the next year +? (ref Q4 and 5)

If necessary:

- 7 What role could QEP play in helping you and the school to achieve the changes you want?
- 8 Is there anything else that you would like to add? Anything else you think we need to understand?

G. EducAid Training Team – Semi-structured interview schedule

Research questions to be answered by this interview:

- 5 What aspects of the QEP were the most & least challenging to deliver?
- 6 What aspects of the QEP have been the most and the least impactful?
- 7 What recommendations are there for any future QEP support in Project Y?
- 8 What recommendations are there for the implementation of any version of the QEP elsewhere?

Reminder – there are no right or wrong answers. Please just be as clear and open as you can.

General intro – non-threatening intro questions.

- 1 How long have you been part of the training team and what are the highlights for you of being in the team?

More probing questions

- 2 In your view, have there been any changes in the Y schools since the beginning of the QEP
- 3 What aspects of QEP most challenging to deliver?
- 4 What aspects of QEP easiest to deliver?
- 5 What aspects of QEP have been most impactful?
- 6 What aspects of QEP have been least impactful?
- 7 Recommendations for future QEP in Y?
- 8 Recommendations for adapted QEP for elsewhere?
- 9 Is there anything else you would like to mention?

H. Head-teachers – Focus group discussion schedule

Reminder – do not let one participant dominate the conversation!

Research questions to be answered by this discussion:

- 1 How do the head-teachers see the QEP in their school's work / performance / improvement?
- 2 How do the head-teachers see their own role in the school and in the school's improvement?
- 3 What differences are there between how the schools are implementing the QEP training and guidance and what might be the causes of such differences?
- 4 How can the QEP best support them?

General non-threatening intro

- 1 Tell us about your best professional moment this week.

More probing questions

n.b. reassure that this is about understanding the current situation and how she/he would like us to work together. There are no right or wrong answers.

- 2 How would you describe any changes that have taken place in the way the children are learning and progressing in your school? *are you happy with the teaching and learning at the moment? In what ways would you like to see this change?*
 - a. Behaviour management – *are you happy with the behaviour and behaviour management at the moment? In what ways would you like to see this change?*
 - b. Gender equality – *are you happy that the girls and boys participate and achieve equally at the moment? In what ways would you like to see this change?*
 - c. Professionalism – sense of urgency – *are you happy with your professionalism (punctuality, commitment to deadlines, regular attendance, sense of urgency etc.)? In what ways would you like to see this change?*
 - d. Staff relationships – *(how) do the staff support each other professionally? In what ways would you like to see this change?*
- 3 How do you see your involvement in achieving the changes you would like to see in the school and in your class over the next year +?

If necessary:

- 4 What role could QEP play in helping you and the school to achieve the changes you want?
- 5 Is there anything else that you would like to add? Anything else you think we need to understand?

I. Teachers – Focus group discussion schedule

Reminder – do not let one participant dominate the conversation!

Research questions to be answered by this discussion:

- 1 How do the teachers see the QEP in their school's work / performance / improvement?
- 2 How do the teachers see their own role in the school and in the school's improvement?
- 3 What differences are there between how the different schools are implementing the trainings?
- 4 How could the QEP best support the teachers and the schools?
- 5 How can the QEP best support them?

General non-threatening intro

- 1 Tell us about something that you enjoyed in your work this week.

More probing questions

n.b. reassure that this is about understanding the current situation and how she/he would like us to work together. There are no right or wrong answers.

2 Teaching and Learning – *are you happy with how the children are learning and progressing at the moment (in English / Maths)? Do you feel they are making better progress now? Are you doing anything differently now? What do you think is helping them learn? What are you doing differently this year with last year? (How are you using what you learned in the QEP?) In what ways would you like to see this change? How will you achieve this?*

a. Behaviour management – *are you happy with the behaviour and behaviour management at the moment? In what ways would you like to see this change? How will you achieve this?*

b. Gender equality – *are you happy that the girls and boys participate and achieve equally at the moment? In what ways would you like to see this change? How will you achieve this?*

c. Professionalism – sense of urgency – *are you happy with your professionalism (punctuality, commitment to deadlines, regular attendance, sense of urgency etc.)? In what ways would you like to see this change? How will you achieve this?*

d. Staff relationships – *(how) do the staff support each other professionally? In what ways would you like to see this change? How will you achieve this?*

3 *How can you help other teachers and other teachers help you to bring about the changes you describe?*

4 How do you see your involvement in achieving the changes you would like to see in the school and in your class over the next year +?

If necessary:

5 What role could QEP play in helping you and the school to achieve the changes you want?

6 Is there anything else that you would like to add? Anything else you think we need to understand?

J. Children focus group discussion schedule

Research questions to be answered by this discussion:

- 1 Have the children seen any changes in the school since the training sessions? (with particular reference to staff pupil relationships, behaviour management, teaching style (more participatory methodologies), gender equality)
- 2 What do they think about the changes?
- 3 Are there any other changes they would like to see?

General non-threatening intro

- 1 Can each of you introduce yourself and tell us your name, class and favourite subject.

More probing questions

n.b. reassure that this is about understanding the school better and how we can all work together. There are no right or wrong answers.

- 2 Can you describe any changes that have happened in the school since the workshop? Can you give us an example?
- 3 What did you do in English class last week? Is that different from how you used to learn? Can you give us an example?
- 4 What did you do in Maths class last week? Is that different from how you used to learn? Can you give us an example?
- 5 What does the teacher do when a child is naughty or makes a mistake in class? Has anything changed since the workshop? Can you give us an example?
- 6 Do girls do as well in class as boys? Does the teacher expect the girls to do as well as the boys? Can you give us an example?
- 7 Are there any other changes you have noticed so far and any changes you would like to see? Can you give us an example?
- 8 Is there anything else you would like to tell us?

K. Evaluation Workshop Activities

Activity 1a

Name	School	Class taught
Aspect of the QEP	Score each aspect of the QEP on the scale of 1 – 5 in terms of how important you felt it was within the whole intervention. 5 = very important. 1 = not important.	
Creativity not just rote learning		
CUG – free line		
Daily sentence practice		
Girl friendly education strategies		
Growth Mindset ideas		
Lesson observation training for heads		
Link with MEST		
Maths games and learning materials		
Meetings with Heads of Schools		
Nobody left behind ideas – collaboration not competition		
Phonics learning materials		
Positive behaviour management: positive agreed expectations		
Positive behaviour management: rewarding with stars and merits		
Positive behaviour management: standing in the doorway to bring in and allow out your class		
Reading circles		
Refresher visits to schools		
SMC / CTA workshop		
Support to exam class preparation		
Training on giving feedback: be specific and be kind		
Two-week training at the beginning		
Ubuntu ideas to support the teaching of kindness and empathy		
Weekly calls		
Work on protecting teacher time (end and beginning of term, day & lesson)		

Evaluation Workshop Activities continued

Activity 1b

Aspect of the QEP	What has changed? Describe as clearly as you can what has changed in your classroom / school in the last year with regards to each aspect
Creativity not just rote learning	
CUG – free line	
Daily sentence practice	
Girl friendly education strategies	
Growth Mindset ideas	
Lesson observation training for heads	
Link with MEST	
Maths games and learning materials	
Meetings with Heads of Schools	
Nobody left behind ideas – collaboration not competition	
Phonics learning materials	
Positive behaviour management: positive agreed expectations	
Positive behaviour management: rewarding with stars and merits	
Positive behaviour management: standing in the doorway to bring in and allow out your class	
Reading circles	
Refresher visits to schools	
SMC / CTA workshop	
Support to exam class preparation	
Training on giving feedback: be specific and be kind	
Two-week training at the beginning	
Ubuntu ideas to support the teaching of kindness and empathy	
Weekly calls	
Work on protecting teacher time (end and beginning of term, day & lesson)	

Evaluation Workshop Activities continued

Activity 2

Name	
School	
Class taught	
Gender	
<i>What changes would a visitor to your classroom notice between last year and this year? Please explain in as much detail as you can.</i>	
<i>Behaviour management</i>	
<i>Girls' participation</i>	
<i>Girls' achievement</i>	
<i>Children's literacy</i>	
<i>Children's punctuality</i>	
<i>Children's attendance</i>	
<i>CTA/SMC cooperation with the school</i>	
<i>Heads' support to you and your colleagues</i>	
<i>Collaboration and cooperation between you and your colleagues</i>	

Evaluation Workshop Activities continued

Activity 3 – Group ranking activity – Rank in order of importance to you

Creativity not just rote learning
CUG – free line
Daily sentence practice
Girl friendly education strategies
Growth Mindset ideas
Lesson observation training for heads
Link with MEST
Maths games and learning materials
Meetings with Heads of Schools
Nobody left behind ideas – collaboration not competition
Phonics learning materials
Positive behaviour management: positive agreed expectations
Positive behaviour management: rewarding with stars and merits
Positive behaviour management: standing in the doorway to bring in and allow out your class
Reading circles
Refresher visits to schools
SMC / CTA workshop
Support to exam class preparation
Training on giving feedback: be specific and be kind
Two-week training at the beginning
Ubuntu ideas to support the teaching of kindness and empathy
Weekly calls
Work on protecting teacher time

Evaluation Workshop Activities continued

Activity 4 – Which aspects of the QEP do you want to be included next year and what suggestions do you have for what it might look like?

Name		School		Class taught	
Creativity not just rote learning					
CUG – free line					
Literacy teaching					
Girl friendly education strategies					
Growth Mindset ideas					
Performance management training for heads					
Link with MEST					
Maths games and learning materials					
Meetings with Heads of Schools					
Nobody left behind ideas – collaboration not competition					
Phonics learning materials					
Positive behaviour management					
Reading circle materials					
Refresher visits to schools					
SMC / CTA workshop					
Support to exam class preparation					
Ubuntu ideas to support the teaching of kindness and empathy					
Weekly calls					
Work on protecting teacher time					
Any other aspect					
Aspect of training					
Creativity not just rote learning					
CUG – free line					
Literacy teaching					
Girl friendly education strategies					
Growth Mindset ideas					
Performance management training for heads					
Link with MEST					
Maths games and learning materials					
Meetings with Heads of Schools					

Nobody left behind ideas – collaboration not competition
Phonics learning materials
Positive behaviour management
Reading circle materials
Refresher visits to schools
SMC / CTA workshop
Support to exam class preparation
Ubuntu ideas to support the teaching of kindness and empathy
Weekly calls
Work on protecting teacher time
Any other aspect

Activity 5

Name
School
Class taught
Gender
What is the most significant way you have changed as a result of your participation in the QEP?
Why is this change particularly significant to you?

L. Lesson Observation Form

Date of visit:

Time of visit: from.....to.....

School	
Principal/Head Teacher	

Lesson observation:

1.	Subject	
2.	Teacher name	
3.	Topic taught	
4.	Skills developed	
5.	Were the exercise books marked?	No/ Inadequate/ Yes <i>If inadequate, what was missing?</i>
6.	Were there clear standards maintained for the exercise books? E.g. date, title on each page and underlined??	No/ Inadequate/ Yes <i>If inadequate, what was missing?</i>
7.	Was there a lesson plan?	No/ Inadequate/ Yes <i>If inadequate, what was missing?</i>
8.	Was there a clear introduction to the lesson?	No/ Inadequate/ Yes <i>If inadequate, what was missing?</i>
9.	Were the aims of the lesson written on the board?	No/ Inadequate/ Yes <i>If inadequate, what was missing?</i>
10.	Was the board prepared before the kids came into the class?	No/ Inadequate/ Yes <i>If inadequate, what was missing?</i>
11.	Was English used by teacher and students throughout?	Yes/ No

12.	Were there participatory activities used during the lesson? Which ones?	No/ Inadequate/ Yes <i>If inadequate, what was missing? If 'Yes', give some examples of the activities used.</i>
13.	How many students participated actively in the lesson?	N. in class N. boys participating N. girls participating
14.	How were the girls encouraged to participate?	
15.	Did you see the students working in small groups?	Yes/ No
16.	Did you see the students helping each other or supporting each other?	Yes/ No <i>If yes, give some examples of what you saw</i>
17.	Did you see students asking questions during the class	Yes/ No
18.	List the activities undertaken during the lesson:	
19.	Was the subject content accurately taught?	No/ Inadequate/ Yes <i>If inadequate, what was missing?</i>
20.	Were the students busy and on task throughout the class period?	No/ Inadequate/ Yes <i>If inadequate, what was missing?</i>
21.	Were the students asked to give feedback on what they had learned and what activities had helped them? How?	No/ Inadequate/ Yes <i>If inadequate, what was missing?</i>
22.	Were the students given a reinforcement homework task?	No/ Inadequate/ Yes <i>If inadequate, what was missing?</i>
23.	Was there a clear end to the lesson?	No/ Inadequate/ Yes <i>If inadequate, what was missing?</i>

24.	Was the register taken?	Yes/ No	
25.	What behavioural problems were there?	Ignoring teacher instructions	
		Talking when asked to be quiet	
		Being rude to the teacher	
		Playing with friends instead of doing classwork	
		Other (if so what)	
26.	How did the teacher avoid or deal with behavioural problems?		
27.	Did you see the teacher rewarding good behaviour or good work?	Yes/ No <i>If yes, describe what you saw</i>	
28.	Anything else worthy of note		
29.	<i>Data collector: (signature & date)</i>		

Appendix 11 – Ethics Approval Process and Documents

A. Letter of Confirmation of Ethics Approval



Shaped by the past, creating the future

13 January 2015

Miriam Mason-Sesay
PhD student
School of Education

miriam@educaid.org.uk

Dear Miriam

I am pleased to inform you that your application for ethical approval in respect of 'Participatory Learning: Devising new models for education in developing nations' has been approved by the School of Education Ethics Committee.

May we take this opportunity to wish you good luck with your research

A handwritten signature in black ink, appearing to be "J. Beckmann".

Dr. J. Beckmann
Chair of School of Education Ethics Committee

Leazes Road
Durham, DH1 1TA
Telephone +44 (0)191 334 2000 Fax +44 (0)191 334 8311
www.durham.ac.uk/education

B. Ethics Application Form

Durham University

School of Education

Research Ethics and Data Protection Monitoring Form

Research involving humans by all academic and related Staff and Students in the Department is subject to the standards set out in the Department Code of Practice on Research Ethics. The Sub-Committee will assess the research against the British Educational Research Association's *Revised Ethical Guidelines for Educational Research* (2011).

It is a requirement that prior to the commencement of all research this form be completed and submitted to the Department's Research Ethics and Data Protection Sub-Committee. The Committee will be responsible for issuing certification that the research meets ethical standards and will, if necessary, require changes to the research methodology or reporting strategy.

The application should contain:

- 1) this completed (and signed) application form
- 2) a copy of the research proposal which should be no longer than one A4 page that details:
(a) objectives of the study, (b) description of the target cohort / sample (c) methods and procedure of data collection, (d) data management and (f) reporting strategies.
- 3) depending on the methodology you plan to employ, outline of the interview schedule / survey / questionnaire / or other assessment methods
- 4) the participant information sheet, and
- 5) the consent form

Templates for the participant information sheet and the consent form are provided at the end of the form.

Notes:

- As all applications should be submitted electronically, electronic (scanned) signatures should be used.
- You will be informed of the outcome of your application within two weeks of submission. If a specific application deadline has been notified, and this is missed, then the turnaround time will be 4 weeks from date of submission.
- No research should be conducted until ethical approval is obtained.
- Incomplete applications will be returned without consideration.
- Please send all documents to the Research Office in the School of Education (Sheena Smith, School of Education, tel. (0191) 334 8403, e-mail: Sheena.Smith@Durham.ac.uk).

Application for Ethics Approval

Name	Miriam Mason-Sesay
Email address	Miriam@educaid.org.uk . Internet access is v difficult in rural SL so I would be grateful if you could use my EducAid address, please.
Title of research project	<i>Participatory Learning: Devising New Models for Education in Developing Nations</i>
Date of start of research project	15 th December 2014

	Please tick one
PGR Student	<input type="checkbox"/>
PGT Student	<input type="checkbox"/>
UG Student	<input type="checkbox"/>

For PGR, PGT and UG students

Programme	PhD Education
Supervisor	Andrew Joyce-Gibbons

For staff

Staff	<input type="checkbox"/>
-------	--------------------------

Is the research funded	N. The intervention is funded by The Steve Sinnott Foundation. The research per se is not funded other than by the researcher.
Funder	
List any Co-Is in the research	

Other

Other	<input type="checkbox"/>
-------	--------------------------

Please give further details	
-----------------------------	--

(1) Does the proposed research project involve data from human participants? This includes secondary data. If the research project is concerned with the analyses of secondary data (e.g. pre-existing data or information records) please continue with Q6-9	(1) Y
(2) Will you provide your informants – prior to their participation – with a participant information sheet containing information about (2a) the purpose of your research (2b) the voluntary nature of their participation (2c) their right to withdraw from the study at any time (2d) what their participation entails (2e) how anonymity is achieved (2f) how confidentiality is secured (2g) whom to contact in case of questions or concerns Please attach a copy of the information sheet or provide details of alternative approach.	(2a) Y (2b) Y (2c) Y (2d) Y (2e) Y (2f) Y (2g) Y
(3) Will you ask your informants to sign an informed consent form? (please attach a copy of the consent form or provide details of alternative approach)	(3) Y

(4) Does your research involve covert surveillance? (4a) If yes, will you seek signed consent post hoc?	(4) N (4a) N/A
(5) Will your data collection involve the use of recording devices? (5a) If yes, will you seek signed consent?	(5) Y (5a) Y
(6) Will your research report be available to informants and the general public without restrictions placed by sponsoring authorities?	(6) Y

<p>(7) How will you guarantee confidentiality and anonymity?</p> <p>Questionnaires will have a space to indicate gender but not names. Questionnaires and participants' responses in focus discussion groups will not be shared outside the group apart from anonymous references within the research. Nobody apart from the research team will have access to the actual response materials.</p>
<p>(8) What are the implications of your research for your informants?</p> <p>If the research demonstrates new ways of working in the classroom, the informants will be pioneers of new classroom strategies and can be used to spread them further. There are no foreseeable negative implications for the informants.</p>
<p>(9) Are there any other ethical issues arising from your research?</p> <p>None that I am aware of</p>

Further details

Declaration

I have read the Department's Code of Practice on Research Ethics and believe that my research complies fully with its precepts.

I will not deviate from the methodology or reporting strategy without further permission from the Department's Research Ethics Committee.

I am aware that it is my responsibility to seek and gain ethics approval from the organisation in which data collection takes place (e.g., school) prior to commencing data collection.

Applicant signature  .. Date: 12th December 2014

Proposal discussed and agreed by supervisor

Supervisor: signature Andrew Joyce-Gibbons. Date: Monday, 15 December 2014

To enable electronic submission of applications, electronic (scanned) signatures will be accepted.

C. Participations Information Sheet



School of Education

Shaped by the past, creating the future

May 2017

Title: **Participant Information Sheet**

You are invited to take part in a research study of *Participatory Learning: Devising New Models for Education in Developing Nations*. Please read this form carefully and ask any questions you may have before agreeing to be in the study.

The study is conducted by Miriam Mason-Sesay as part of her PhD studies at Durham University. This research project is supervised by Andrew Joyce-Gibbons: andrew.joyce-gibbons@durham.ac.uk from the School of Education at Durham University.

The purpose of this study is to find new ways of strengthening the education system in Sierra Leone and other Anglophone developing nations.

If you agree to be in this study, you will be asked to complete a questionnaire before and after the training workshops as well as participate in some focus discussion groups and have some of your lessons observed.

Apart from your participation in the workshops, your participation in this study will take approximately 3 hours.

You are free to decide whether or not to participate. If you decide to participate, you are free to withdraw at any time without any negative consequences for you.

All responses you give or other data collected will be kept confidential. The records of this study will be kept secure and private. All files containing any information you give are password protected. In any research report that may be published, no information will be included that will make it possible to identify you individually. There will be no way to connect your name to your responses at any time during or after the study.

The project is funded by The Steve Sinnott Foundation.

Transport and food costs will be covered by EducAid as required when you are participating in the project.

If you have any questions, requests or concerns regarding this research, please contact me via email at Miriam Mason-Sesay: Miriam@educaid.org.uk or by telephone at XXX.

This study has been reviewed and approved by the School of Education Ethics Sub-Committee at Durham University (date of approval: 13/01/2015)

Miriam Mason-Sesay

A handwritten signature in black ink, appearing to read "Miriam", with a stylized flourish extending to the right.

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Declaration of Informed Consent

- I agree to participate in this study, the purpose of which is to explore ways of strengthening teaching and learning in Sierra Leone.
- I have read the participant information sheet and understand the information provided.
- I have been informed that I may decline to answer any questions or withdraw from the study without penalty of any kind.
- I have been informed that all of my responses will be kept confidential and secure, and that I will not be identified in any report or other publication resulting from this research.
- I have been informed that the investigator will answer any questions regarding the study and its procedures. Miriam Mason-Sesay, School of Education, Durham University can be contacted via email: Miriam@educaid.org.uk or telephone: XXXXXX
- I will be provided with a copy of this form for my records.

Any concerns about this study should be addressed to the Ethics Sub-Committee of the School of Education, Durham University via email (Sheena Smith, School of Education, tel. (0191) 334 8403, e-mail: Sheena.Smith@Durham.ac.uk).

Date	Participant Name (please print)	Participant Signature
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I certify that I have presented the above information to the participant and secured his or her consent.

Date	Signature of Investigator
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Declaration of Informed Consent for Child participants

- I agree to be part of this study.
- The purpose of the study is to help make teaching and learning better in Sierra Leone.
- The participant information sheet was explained to me and I understand the information provided.
- I can refuse to answer any questions or stop being in the study if and when I want to.
- Nobody will know that my answers are mine. I will not be named in the report.
- Miriam Mason-Sesay, School of Education, Durham University will answer any questions I have and I can call her on XXXXXX
- I will be given a copy of this form to keep.

Any concerns about this study should be addressed to the Ethics Sub-Committee of the School of Education, Durham University via email (Sheena Smith, School of Education, tel. (0191) 334 8403, e-mail: Sheena.Smith@Durham.ac.uk).

Date	Participant Name (please print)	Participant Signature
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I certify that I have presented the above information to the participant and secured his or her consent.

Date	Signature of Investigator
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D. Research Proposal Summary for Ethics Approval Application

Participatory Learning: Devising New Models for Education in Developing Nations

Background

Numerous attempts have been made to improve teacher quality in Sierra Leone. Typically these attempts are limited to short-term interventions without adequate baseline or post-intervention assessment of the development of the target group. Their focus tends to be on changing the motivation or attitude of teachers rather than examining changes in behaviour in the classroom.

This project, arising from the continuing teacher development work of EducAid an educational charity running a network of schools in Sierra Leone (www.educaid.org.uk); seeks to examine in greater depth the impact of CPD on teachers' classroom practice.

Research Question

What effect does a period of sustained CPD (focusing on English and Mathematics teaching) have upon the classroom behaviours of Primary school teachers working in urban, peri-urban and rural contexts in Sierra Leone?

Methods

The CPD programme has been developed over a number of years for use in internal staff training programmes for EducAid, it will now being delivered to teachers working in government funded schools. The foci of the programme are key areas of development clearly established in the relevant literature:

- Improved subject knowledge
- Improved classroom management
- More equal treatment of girls and boys in their education
- Improved pedagogical techniques

Impact will be measured through a range of strategies:

- a pre-test and post-test of teacher and student perceptions of teacher behaviour in the classroom. For teachers this will be a written activity in response to statements and will be analysed in a discourse analysis framework looking at the richness and complexity of responses. For students this will be in the form of a four-point Likert scale showing agreement/disagreement in response to the same questions.
- Semi-structured interviews of teachers will also be conducted to explore their behaviours in greater detail. Focus group interviews will be carried out with students to gain insight into their experiences of teacher behaviour in the classroom.
- Visual methods will be used to access perceptions of belief and behaviour by teachers and students – both will be asked to draw a classroom where effective teaching is taking place and to add thought and speech bubbles for a teacher and a pupil.
- Analysis will be conducted using both quantitative and qualitative methods.

- Secondary data will also be collected from schools' assessments of pupil progress. These will be analysed both within-groups and between-groups to explore whether the intervention has made a positive impact. They will also be compared with a larger set of attainment data to locate the schools in the treatment group and control group in the broader national context.

The research will be carried out among teachers from up to 10 primary schools. There will also be a control group of 10 primary schools all will be drawn from the Port Loko district in the Northern Region of Sierra Leone. Every effort will be made to ensure that the control and intervention schools are as closely matched as possible.

Informed consent:

All participants will have the project explained to them in both English and Themne. All participants will be made aware of the context of the research (including the role of the researcher and that of Durham University). The researcher is aware of the fact that some of the participants and their families may have limited experience of universities in society or of the concept of educational research. The process of gaining informed consent will take into account this potentially low level of familiarity. Plenty of time will be allowed for asking and answering questions from participants.

As far as possible, the consent of parents or guardians will be sought for the participation of the pupils in the research. However, due to nature of the poor communications in the area and the difficult challenges which are currently being faced in Sierra Leone, this may not always be possible.

Appendix 12

A. Summary of t-tests using change scores comparing all the intervention schools

	Project Y2	Project Y3	Project Y4	Project Y5
Project Y1	t = 2.8, d.f. 56 p = 0.007	t = -0.4, d.f. = 55 p = 0.66	t = -1.77, d.f. = 54 p = 0.08	t = -0.62 d.f. = 57 p = 0.54
Project Y2	X	t = 2.67, d.f. = 49 p = 0.01	t = 1.52, d.f. = 47 p = 0.13	t = 2.46, d.f. = 51 p = 0.02
Project Y3	X	X	t = 1.53, d.f. = 55 p = 0.13	t = -0.22 d.f. = 56 p = 0.87
Project Y4	X	X	X	t = 1.26, d.f. = 57 p = 0.2

B. Two-tailed T-tests comparing Time 1 literacy test scores in Project Y and M1 & Project Y & M2

Table Comparison between Project Y and M1 Literacy scores at Time 1 (Two tailed t test)

	Project Y Time 1	M1 Time 1
Mean	24.98	31.42
Variance	249.89	132.42
Observations	148	117
df	261	
t Stat	-3.83	
P(T<=t) two-tail	0.00015796	

Table Comparison between Project Y and M2 Literacy scores at Time 1 (Two tailed t test)

	Project Y Time 1	M2 Time 1
Mean	24.98	14.0
Variance	249.9	77.67
Observations	148	139
df	233	
t Stat	7.32	
P(T<=t) two-tail	3.89 x 10 ⁻¹²	

C. T-test comparing mean Time 1 and Time 2 literacy test scores & change scores for girls' and boys' literacy tests in Project Y schools

	Girls Time 1 Literacy Scores	Boys Time 1 Literacy Scores		Mean Girls' gain	Mean Boys' gain
Mean	24.62	25.31	Mean	27.27	25.7142857
Variance	254.98	248.27	Variance	157.83	145.838346
Observations	71	77	Observations	71	77
df	145		df	144	
t Stat	-0.27		t Stat	0.77	
P(T<=t) two-tail	0.79		P(T<=t) two-tail	0.45	

D. T-test comparing mean change scores in classes 1 – 3 and classes 4 – 6 literacy tests in Project Y schools

	Classes 1 – 3 gains	Classes 4 – 6 gains
Mean	25.33	27.29
Variance	147.90	153.71
Observations	63	85
df	135	
t Stat	-0.96	
P(T<=t) two-tail	0.34	

- E. SPSS read out for ANOVA regression test comparing post-test (Time 2) scores in Project Y schools with post-test scores in M1 schools while holding pre-test Y score constant.

Step 1: Standardization of pre- and posttest (z-standardisation)

Step 2: Regression analyses with standardised variables

Step 3: Calculate confidence intervals: $CI_{\beta_i 0.95} = [\hat{\beta}_i - 1.96 \times SE(\hat{\beta}_i), \hat{\beta}_i + 1.96 \times SE(\hat{\beta}_i)]$

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ZPretest, CompYM1 ^b	.	Enter

a. Dependent Variable: ZPosttest

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.981 ^a	.963	.950	.12965226

a. Predictors: (Constant), ZPretest, CompYM1

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.609	2	1.305	77.610	.000 ^b
	Residual	.101	6	.017		
	Total	2.710	8			

a. Dependent Variable: ZPosttest

b. Predictors: (Constant), ZPretest, CompYM1

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.116	.066		16.852	.000	.954	1.278
	CompYM1	-1.085	.130	-.982	-8.349	.000	-1.403	-.767
	ZPretest	.002	.117	.002	.014	.989	-.286	.289

a. Dependent Variable: ZPosttest

CI: [-.73; -1.23]

- F. SPSS read out for ANOVA regression test comparing post-test (Time 2) scores in Project Y schools with post-test scores in M2 schools while holding pre-test Y score constant.

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ZPretest, CompYM2 ^b	.	Enter

a. Dependent Variable: ZPosttest

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.995 ^a	.989	.986	.14161339

a. Predictors: (Constant), ZPretest, CompYM2

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.763	2	6.381	318.200	.000 ^b
	Residual	.140	7	.020		
	Total	12.903	9			

a. Dependent Variable: ZPosttest

b. Predictors: (Constant), ZPretest, CompYM2

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.115	.074		15.008	.000	.940	1.291
	CompYM2	-2.253	.222	-.992	-10.167	.000	-2.777	-1.729
	ZPretest	.005	.143	.003	.032	.976	-.333	.342

a. Dependent Variable: ZPosttest

CI: [-.56; -1.27]

Appendix 13

A. Project Y Schools – lesson observation elements measured at Times 1 and 2 and % change between two times

Y Project Intervention Schools Observation	Time 1 (% marked Yes) (n = 36)	Time 2 (% marked Yes) (n = 30)	% Change between Time 1 and Time 2
Were the exercise books marked?	21.6%	20.0%	-1.6%
Were there clear standards maintained for the exercise books?	0.0%	20.0%	20.0%
Was there a lesson plan?	35.1%	73.3%	38.2%
Was there a clear introduction to the lesson?	48.6%	83.3%	34.7%
Were the aims of the lesson written on the board	0.0%	43.3%	43.3%
Was the board prepared before the students came into the class?	48.6%	76.7%	28.0%
Was English used by teacher and students throughout?	27.0%	83.3%	56.3%
Were there participatory activities used during the lesson?	13.5%	56.7%	43.2%
Did you see the students working in small groups?	10.8%	23.3%	12.5%
Did you see the students helping or supporting each other?	18.9%	30.0%	11.1%
Did you see students asking questions during the class?	16.2%	16.7%	0.5%
Was the subject content accurately taught?	48.6%	73.3%	24.7%
Were the students busy and on task throughout the class period?	32.4%	53.3%	20.9%
Were the students asked to give feedback on what they had learned?	16.2%	33.3%	17.1%
Were the students given a reinforcement homework task?	10.8%	26.7%	15.9%
Was there a clear end to the lesson?	32.4%	56.7%	24.2%
Was the register taken?	51.4%	73.3%	22.0%
Did you see the teacher rewarding good behaviour or good work?	62.2%	63.3%	1.2%

Figure 10: 1 Table showing % change between Time 1 and Time 2 (pre & post-intervention) lesson observations elements in Project Y

B. M1 Schools – lesson observation elements measured at Times 1 and 2 and % change between two times

M1 Comparison Schools	Time 1 (% marked Yes) (n = 45)	Time 2 (% marked Yes) (n = 25)	% Change between Time 1 and Time 2
Observation			
Were the exercise books marked?	2.2%	8.0%	5.8%
Were there clear standards maintained for the exercise books?	4.4%	8.0%	3.6%
Was there a lesson plan?	26.7%	60.0%	33.3%
Was there a clear introduction to the lesson?	22.2%	68.0%	45.8%
Were the aims of the lesson written on the board	2.2%	4.0%	1.8%
Was the board prepared before the students came into the class?	15.6%	44.0%	28.4%
Was English used by teacher and students throughout?	60.0%	88.0%	28.0%
Were there participatory activities used during the lesson?	4.4%	0.0%	-4.4%
Did you see the students working in small groups?	6.7%	4.0%	-2.7%
Did you see the students helping or supporting each other?	6.7%	16.0%	9.3%
Did you see students asking questions during the class?	00.0%	8.0%	8.0%
Was the subject content accurately taught?	42.2%	92.0%	49.8%
Were the students busy and on task throughout the class period?	17.8%	44.0%	26.2%
Were the students asked to give feedback on what they had learned?	8.9%	4.0%	-4.9%
Were the students given a reinforcement homework task?	0.0%	4.0%	4.0%
Was there a clear end to the lesson?	0.0%	28.0%	28.0%
Was the register taken?	35.6%	40.0%	4.4%
Did you see the teacher rewarding good behaviour or good work?	64.9%	36.0%	-28.9%

C. M2 Schools – lesson observation elements measured at Times 1 and 2 and % change between two times

M2 Comparison Schools	Time 1 (% marked Yes) (n = 27)	Time 2 (% marked Yes) (n = 19)	% Change between Time 1 and Time 2
Observation			
Were the exercise books marked?	0.0%	0.0%	0.0%
Were there clear standards maintained for the exercise books?	0.0%	0.0%	0.0%
Was there a lesson plan?	0.0%	10.5%	10.5%
Was there a clear introduction to the lesson?	15.4%	21.1%	5.7%
Were the aims of the lesson written on the board	0.0%	0.0%	0.0%
Was the board prepared before the students came into the class?	38.5%	15.8%	-22.7%
Was English used by teacher and students throughout?	42.3%	47.4%	5.1%
Were there participatory activities used during the lesson?	0.0%	0.0%	0.0%
Did you see the students working in small groups?	3.8%	5.3%	1.4%
Did you see the students helping or supporting each other?	3.8%	5.3%	1.4%
Did you see students asking questions during the class?	0.0%	0.0%	0.0%
Was the subject content accurately taught?	38.5%	68.4%	30.0%
Were the students busy and on task throughout the class period?	26.9%	36.8%	9.9%
Were the students asked to give feedback on what they had learned?	7.7%	26.3%	18.6%
Were the students given a reinforcement homework task?	0.0%	5.3%	5.3%
Was there a clear end to the lesson?	11.5%	21.1%	9.5%
Was the register taken?	34.6%	36.8%	2.2%
Did you see the teacher rewarding good behaviour or good work?	23.1%	36.8%	13.8%

D. Schools – % change in lesson observation elements measured between Times 1 and 2

Observation	Y Project Change	M1 Change	M2 Change
Were the exercise books marked?	-1.6%	5.8%	0.0%
Were there clear standards maintained for the exercise books?	20.0%	3.6%	0.0%
Was there a lesson plan?	38.2%	33.3%	10.5%
Was there a clear introduction to the lesson?	34.7%	45.8%	5.7%
Were the aims of the lesson written on the board	43.3%	1.8%	0.0%
Was the board prepared before the students came into the class?	28.0%	28.4%	-22.7%
Was English used by teacher and students throughout?	56.3%	28.0%	5.1%
Were there participatory activities used during the lesson?	43.2%	-4.4%	0.0%
Did you see the students working in small groups?	12.5%	-2.7%	1.4%
Did you see the students helping or supporting each other?	11.1%	9.3%	1.4%
Did you see students asking questions during the class?	0.5%	8.0%	0.0%
Was the subject content accurately taught?	24.7%	49.8%	30.0%
Were the students busy and on task throughout the class period?	20.9%	26.2%	9.9%
Were the students asked to give feedback on what they had learned?	17.1%	-4.9%	18.6%
Were the students given a reinforcement homework task?	15.9%	4.0%	5.3%
Was there a clear end to the lesson?	24.2%	28.0%	9.5%
Was the register taken?	22.0%	4.4%	2.2%
Did you see the teacher rewarding good behaviour or good work?	1.2%	-28.9%	13.8%

Appendix 14

A. Table showing % change between Times 1 and 2 in lesson observation elements in Y Project schools

Y Project Intervention Schools	Time 1 (% marked Yes) (n = 36)	Time 2 (% marked Yes) (n = 30)	% Change between Time 1 and Time 2
Observation			
Were the exercise books marked?	21.6%	20.0%	-1.6%
Were there clear standards maintained for the exercise books?	0.0%	20.0%	20.0%
Was there a lesson plan?	35.1%	73.3%	38.2%
Was there a clear introduction to the lesson?	48.6%	83.3%	34.7%
Were the aims of the lesson written on the board	0.0%	43.3%	43.3%
Was the board prepared before the students came into the class?	48.6%	76.7%	28.0%
Was English used by teacher and students throughout?	27.0%	83.3%	56.3%
Were there participatory activities used during the lesson?	13.5%	56.7%	43.2%
Did you see the students working in small groups?	10.8%	23.3%	12.5%
Did you see the students helping or supporting each other?	18.9%	30.0%	11.1%
Did you see students asking questions during the class?	16.2%	16.7%	0.5%
Was the subject content accurately taught?	48.6%	73.3%	24.7%
Were the students busy and on task throughout the class period?	32.4%	53.3%	20.9%
Were the students asked to give feedback on what they had learned?	16.2%	33.3%	17.1%
Were the students given a reinforcement homework task?	10.8%	26.7%	15.9%
Was there a clear end to the lesson?	32.4%	56.7%	24.2%
Was the register taken?	51.4%	73.3%	22.0%
Did you see the teacher rewarding good behaviour or good work?	62.2%	63.3%	1.2%

B. Table showing % change between Times 1 and 2 in lesson observation elements in M1 schools

M1 Comparison Schools	Time 1 (% marked Yes) (n = 45)	Time 2 (% marked Yes) (n = 25)	% Change between Time 1 and Time 2
Observation			
Were the exercise books marked?	2.2%	8.0%	5.8%
Were there clear standards maintained for the exercise books?	4.4%	8.0%	3.6%
Was there a lesson plan?	26.7%	60.0%	33.3%
Was there a clear introduction to the lesson?	22.2%	68.0%	45.8%
Were the aims of the lesson written on the board	2.2%	4.0%	1.8%
Was the board prepared before the students came into the class?	15.6%	44.0%	28.4%
Was English used by teacher and students throughout?	60.0%	88.0%	28.0%
Were there participatory activities used during the lesson?	4.4%	0.0%	-4.4%
Did you see the students working in small groups?	6.7%	4.0%	-2.7%
Did you see the students helping or supporting each other?	6.7%	16.0%	9.3%
Did you see students asking questions during the class?	00.0%	8.0%	8.0%
Was the subject content accurately taught?	42.2%	92.0%	49.8%
Were the students busy and on task throughout the class period?	17.8%	44.0%	26.2%
Were the students asked to give feedback on what they had learned?	8.9%	4.0%	-4.9%
Were the students given a reinforcement homework task?	0.0%	4.0%	4.0%
Was there a clear end to the lesson?	0.0%	28.0%	28.0%
Was the register taken?	35.6%	40.0%	4.4%
Did you see the teacher rewarding good behaviour or good work?	64.9%	36.0%	-28.9%

C. Table showing % change between Times 1 and 2 in lesson observation elements in M2 schools

M2 Comparison Schools	Time 1 (% marked Yes) (n = 27)	Time 2 (% marked Yes) (n = 19)	% Change between Time 1 and Time 2
Observation			
Were the exercise books marked?	0.0%	0.0%	0.0%
Were there clear standards maintained for the exercise books?	0.0%	0.0%	0.0%
Was there a lesson plan?	0.0%	10.5%	10.5%
Was there a clear introduction to the lesson?	15.4%	21.1%	5.7%
Were the aims of the lesson written on the board	0.0%	0.0%	0.0%
Was the board prepared before the students came into the class?	38.5%	15.8%	-22.7%
Was English used by teacher and students throughout?	42.3%	47.4%	5.1%
Were there participatory activities used during the lesson?	0.0%	0.0%	0.0%
Did you see the students working in small groups?	3.8%	5.3%	1.4%
Did you see the students helping or supporting each other?	3.8%	5.3%	1.4%
Did you see students asking questions during the class?	0.0%	0.0%	0.0%
Was the subject content accurately taught?	38.5%	68.4%	30.0%
Were the students busy and on task throughout the class period?	26.9%	36.8%	9.9%
Were the students asked to give feedback on what they had learned?	7.7%	26.3%	18.6%
Were the students given a reinforcement homework task?	0.0%	5.3%	5.3%
Was there a clear end to the lesson?	11.5%	21.1%	9.5%
Was the register taken?	34.6%	36.8%	2.2%
Did you see the teacher rewarding good behaviour or good work?	23.1%	36.8%	13.8%

D. Table showing % change between lesson observations at Time 1 and at Time 2 in Y Project, M1 & M2 schools

Observation	Y Project Change	M1 Change	M2 Change
Were the exercise books marked?	-1.6%	5.8%	0.0%
Were there clear standards maintained for the exercise books?	20.0%	3.6%	0.0%
Was there a lesson plan?	38.2%	33.3%	10.5%
Was there a clear introduction to the lesson?	34.7%	45.8%	5.7%
Were the aims of the lesson written on the board	43.3%	1.8%	0.0%
Was the board prepared before the students came into the class?	28.0%	28.4%	-22.7%
Was English used by teacher and students throughout?	56.3%	28.0%	5.1%
Were there participatory activities used during the lesson?	43.2%	-4.4%	0.0%
Did you see the students working in small groups?	12.5%	-2.7%	1.4%
Did you see the students helping or supporting each other?	11.1%	9.3%	1.4%
Did you see students asking questions during the class?	0.5%	8.0%	0.0%
Was the subject content accurately taught?	24.7%	49.8%	30.0%
Were the students busy and on task throughout the class period?	20.9%	26.2%	9.9%
Were the students asked to give feedback on what they had learned?	17.1%	-4.9%	18.6%
Were the students given a reinforcement homework task?	15.9%	4.0%	5.3%
Was there a clear end to the lesson?	24.2%	28.0%	9.5%
Was the register taken?	22.0%	4.4%	2.2%
Did you see the teacher rewarding good behaviour or good work?	1.2%	-28.9%	13.8%

E. Detail of elements of lessons observed in Project Y, M1 and M2 schools that may have been affected by the national lesson plan manual initiative

Was there a lesson plan?

Table showing % of lessons observed in each group of schools in which there was a lesson plan

Was there a lesson plan?		Y Project Intervention Schools		M1 Comparison Schools		M2 Comparison Schools	
Time 1	(% marked Yes)	(n = 36)	35.10%	(n = 45)	26.70%	(n = 27)	0.00%
Time 2	(% marked Yes)	(n = 30)	73.30%	(n = 25)	60.00%	(n = 19)	10.50%
% Change between Time 1 and Time 2		38.20%		33.30%		10.50%	

Was there a clear introduction to the lesson?

Table showing % of lessons observed in each group of schools in which there was a clear introduction to the lesson

Was there a clear introduction to the lesson?		Y Project Intervention Schools		M1 Comparison Schools		M2 Comparison Schools	
Time 1	(% marked Yes)	(n = 36)	48.60%	(n = 45)	22.20%	(n = 27)	15.40%
Time 2	(% marked Yes)	(n = 30)	83.30%	(n = 25)	68.00%	(n = 19)	21.10%
% Change between Time 1 and Time 2		34.70%		45.80%		5.70%	

Were the aims of the lesson written on the board?

Table showing % of lessons observed in each group of schools in which the aims of the lesson were written on the board

Were the aims of the lesson written on the board?		Y Project Intervention Schools		M1 Comparison Schools		M2 Comparison Schools	
Time 1	(% marked Yes)	(n = 36)	0.00%	(n = 45)	2.20%	(n = 27)	0.00%
Time 2	(% marked Yes)	(n = 30)	43.30%	(n = 25)	4.00%	(n = 19)	0.00%
% Change between Time 1 and Time 2		43.30%		1.80%		0.00%	

Was the board prepared before the students came into the class?

Table showing % of lessons observed in each group of schools in which the board was prepared before students came into class

Was the board prepared before the students came into the class?		Y Project Intervention Schools		M1 Comparison Schools		M2 Comparison Schools	
Time 1	(% marked Yes)	(n = 36)	48.60%	(n = 45)	15.60%	(n = 27)	38.50%
Time 2	(% marked Yes)	(n = 30)	76.70%	(n = 25)	44.00%	(n = 19)	15.80%
% Change between Time 1 and Time 2		28.00%		28.40%		-22.70%	

Were the students busy and on task throughout the class period?

Table showing % of lessons observed in each group of schools in which students were on task throughout the class

Were the students busy and on task throughout the class period?		Y Project Intervention Schools		M1 Comparison Schools		M2 Comparison Schools	
Time 1	(% marked Yes)	(n = 36)	32.40%	(n = 45)	17.80%	(n = 27)	26.90%
Time 2	(% marked Yes)	(n = 30)	53.30%	(n = 25)	44.00%	(n = 19)	36.80%
% Change between Time 1 and Time 2			20.90%		26.20%		9.90%

F. Detail of elements of lessons observed where Project Y schools seem to have improved

Were the students asked to give feedback on what they had learned?

Table showing % of lessons observed in each group of schools in which students were asked to give feedback

Were the students asked to give feedback on what they had learned?	Y Project Intervention Schools	M1 Comparison Schools	M2 Comparison Schools
Time 1 (% marked Yes)	(n = 36) 16.20%	(n = 45) 8.90%	(n = 27) 7.70%
Time 2 (% marked Yes)	(n = 30) 33.30%	(n = 25) 4.00%	(n = 19) 26.30%
% Change between Time 1 and Time 2	17.10%	- 4.90%	18.60%

Were the students given a reinforcement homework task?

Table showing % of lessons observed in each group of schools in which homework was given

Were the students given a reinforcement homework task?	Y Project Intervention Schools	M1 Comparison Schools	M2 Comparison Schools
Time 1 (% marked Yes)	(n = 36) 10.80%	(n = 45) 0.00%	(n = 27) 0.00%
Time 2 (% marked Yes)	(n = 30) 26.70%	(n = 25) 4.00%	(n = 19) 5.30%
% Change between Time 1 and Time 2	15.90%	4.00%	5.30%

G. Detail of elements of lessons observed where Project Y schools did not improve

Were the exercise books marked?

Table showing % of lessons observed in each group of schools in which the exercise books were marked

Were the exercise books marked?	Y Project Intervention Schools	M1 Comparison Schools	M2 Comparison Schools
Time 1 (% marked Yes)	(n = 36) 21.60%	(n = 45) 2.20%	(n = 27) 0.00%
Time 2 (% marked Yes)	(n = 30) 20.00%	(n = 25) 8.00%	(n = 19) 0.00%
% Change between Time 1 and Time 2	-1.60%	5.80%	0.00%

Were there clear standards maintained for the exercise books?

Table showing % of lessons observed in each group of schools in which clear standards for exercise books were seen

Were there clear standards maintained for the exercise books?	Y Project Intervention Schools	M1 Comparison Schools	M2 Comparison Schools
Time 1 (% marked Yes)	(n = 36) 0.00%	(n = 45) 4.40%	(n = 27) 0.00%
Time 2 (% marked Yes)	(n = 30) 20.00%	(n = 25) 8.00%	(n = 19) 0.00%
% Change between Time 1 and Time 2	20.00%	3.60%	0.00%

Did you see the students working in small groups?

Table showing % of lessons observed in each group of schools in which students were seen working in small groups

Did you see the students working in small groups?	Y Project Intervention Schools	M1 Comparison Schools	M2 Comparison Schools
Time 1 (% marked Yes)	(n = 36) 10.80%	(n = 45) 6.70%	(n = 27) 3.80%
Time 2 (% marked Yes)	(n = 30) 23.30%	(n = 25) 4.00%	(n = 19) 5.30%
% Change between Time 1 and Time 2	12.50%	-2.70%	1.40%

Did you see the students helping or supporting each other?

Table showing % of lessons observed in each group of schools in which students were helping each other

Did you see the students helping or supporting each other?	Y Project Intervention Schools	M1 Comparison Schools	M2 Comparison Schools
Time 1 (% marked Yes)	(n = 36) 18.90%	(n = 45) 6.70%	(n = 27) 3.80%
Time 2 (% marked Yes)	(n = 30) 30.00%	(n = 25) 16.00%	(n = 19) 5.30%
% Change between Time 1 and Time 2	11.10%	9.30%	1.40%

Did you see students asking questions during the class?

Table showing % of lessons observed in each group of schools in which children asked questions

Did you see students asking questions during the class?		Y Project Intervention Schools		M1 Comparison Schools		M2 Comparison Schools	
Time 1	(% marked Yes)	(n = 36)	16.20%	(n = 45)	0.00%	(n = 27)	0.00%
Time 2	(% marked Yes)	(n = 30)	16.70%	(n = 25)	8.00%	(n = 19)	0.00%
% Change between Time 1 and Time 2			0.50%		8.00%		0.00%

Was the subject content accurately taught?

Table showing % of lessons observed in each group of schools in which the subject content was taught accurately

Was the subject content accurately taught?		Y Project Intervention Schools		M1 Comparison Schools		M2 Comparison Schools	
Time 1	(% marked Yes)	(n = 36)	48.60%	(n = 45)	42.20%	(n = 27)	38.50%
Time 2	(% marked Yes)	(n = 30)	73.30%	(n = 25)	92.00%	(n = 19)	68.40%
% Change between Time 1 and Time 2			24.70%		49.80%		30.00%

Was there a clear end to the lesson?

Table showing % of lessons observed in each group of schools in which there was a clear end to the lesson

Was there a clear end to the lesson?		Y Project Intervention Schools		M1 Comparison Schools		M2 Comparison Schools	
Time 1	(% marked Yes)	(n = 36)	32.40%	(n = 45)	0.00%	(n = 27)	11.50%
Time 2	(% marked Yes)	(n = 30)	56.70%	(n = 25)	28.00%	(n = 19)	21.10%
% Change between Time 1 and Time 2			24.20%		28.00%		9.50%

Abbreviations

BECE	Basic Education Certificate Examination
CPDL	Continuous Professional Development & Learning
CTA	Community Teachers Association
DfID	Department for International Development
EDI	Education for All Development Index
EFA	Education for All
EVC	Every Voice Counts
FCC	Freetown City Council
FGD	Focus Group Discussions
INEE	International Network for Education in Emergencies
JSS	Junior Secondary School
M1	Comparison Group 1 schools
M2	Comparison Group 2 schools
MAT	Multi Academy Trust
MDG	Millennium Development Goal
MEST	Ministry of Education, Science & Technology
MoBSSE	Ministry of Basic & Senior Secondary Education
NPSE	National Primary School Examination
OECD	Organisation for Economic Cooperation and Development
PISA	Programme for International Student Assessment
Project Y	Intervention schools
QED	Quasi – Experimental Design
QEP	Quality Enhancement Programme
RATL	Raising Achievement/Transforming Learning
SDG	Sustainable Development Goal
SMC	School Management Committee
SSS	Senior Secondary School
TALIS	Teaching and Learning International Survey
TSC	Teaching Service Commission
TRC	Truth and Reconciliation Commission
UPE	Universal Primary Education
WAEC	West African Examinations Council
WASSCE	West African Senior Secondary Certificate Examination

Glossary of EducAid terms

Agreed expectations	<p>Agreed expectations refers to when, at the beginning of a term or teaching period, the teacher / facilitator negotiates a set of mutually agreed expectations with which to hold each other to account, taking the prime responsibility for behaviour management from the teacher and sharing it with the learners. Agreements might include:</p> <ul style="list-style-type: none"> • We will attend punctually • We will respect each other's learning
Alongside	Alongside approaches specifically refer to how teacher-trainers learn to work with the tea training. This is in rejection of top-down approaches which positions the teacher for pow support.
Collaboration over competition	Fostering a spirit of collaboration over competition is in line with other values-based attitudes EducAid seeks to promote in its own schools and in partner schools. This can also be characterised as a 'we not me' approach and is important in a context where many acquire an education but in a values vacuum.
Corporal and humiliating punishments	Corporal punishment includes being caned but also refers to punishments such as 'pumping' (being made to do dozens of squats) or kneeling in the sun, holding one's hands out to the side horizontally. Humiliating punishment includes being insulted or being made to do something embarrassing.
Growth mindset	Growth mindset approaches derive from work done by Dweck (2000) demonstrating the importance in teacher talk of how to encourage children to believe in hard work, perseverance, and learning from mistakes rather than in natural talent.
Icon-based checklist	A checklist using icons devised to support illiterate community members know the standards in the school that they have a right and a responsibility to demand.
Inter-school collaboration	Collaborative relationships between schools that encourage professional development: sharing ideas, engaging in CPDL together.
Intra-school collaboration	Collaborative relationships between teacher colleagues that encourage professional development: peer lesson observations, frequent meetings to share good practice and ideas for overcoming challenges.
Nobody left behind	In line with collaboration over competition approaches, this is about encouraging children to see themselves as in competition but as responsible for each other. The idea is that if one fails, we all have failed so we all need to find ways of helping each other so we can all succeed.
Positive behaviour management	Positive behaviour management refers to a system of behaviour management that focuses on encouraging and supporting the positive target behaviours rather than the negative behaviours needing sanctioning.
Role-model schools	EducAid schools are run with a range of practices that are not seen in other schools in Sierra Leone. For non-EducAid teachers to be able to envisage behaviours and practices they have never experienced, it is important to have schools they can visit that can be a role-model for them.
Ubuntu	Ubuntu is a southern African term meaning ' <i>I am because we are</i> '. It emphasises the humanising impact of community and the dehumanising impact of isolation and selfishness. Ubuntu approaches in school include allowing children to nominate each other for an Ubuntu star for kind acts they have performed, encouraging attitudes of sharing, caring and kindness.

Supervisor's statement on co-authored publications arising from this thesis.

Two co-authored publications are based on research reported in this thesis:

1. Mason, M., Galloway, D. and Joyce-Gibbons, A. (2018) Closing the attainment gap: Collaboration between schools in Sierra Leone. *Educational and Child Psychology*, 35 (i) 27-39.

This paper was written for an issue of the journal that focused on *Closing the Attainment Gap*. It is based largely on research reported in Chapter 6. The contributions of each author were:

- MM identified data for collection, proposed a Sierra Leonean proxy for disadvantage and prepared the first draft. She responded to queries and comments from DG and AJ-G, and was responsible for the final draft. Due to MM's situation in Sierra Leone at the time, the corresponding author was DG. I estimate her contribution at 66%.
- DG negotiated submission of the paper with the special issue's editor. He suggested changes to the first draft and, as corresponding author, responded to referees' comments. His contribution is estimated at 20%
- As a supervisor of the thesis, AJ-G assisted in early plans for the paper, commented on drafts, and suggested additional references. I estimate his contribution at 14%.

2. Mason, M., Galloway, D. and Joyce-Gibbons, A. (2020) Catering for diversity in a low-income country. In C. Koh (ed.) *Diversifying Learner Experiences: A Kaleidoscope of Instructional Approaches and Strategies*. Springer. (NB: Chapter accepted by editor subject to minor corrections by 31st August 2019.)

A chapter for this edited book is based largely on research reported in Chapters 7 and 8. The contributions of each author were:

- MM was the corresponding author. She prepared the first draft and is currently responding to minor changes suggested by the editor and referees. I estimate her contribution at 70%.
- DG assisted with planning the initial outline and commented in detail on the first draft. I estimate his contribution at 20%.
- As a supervisor of the thesis, AJ-G commented on drafts and suggested additional references. I estimate his contribution at 10%.

David Galloway
Co-supervisor.

Other publications informed by this thesis include:

- 1 Estimated 15% contributions to an Education Workforce Initiative project for the Global Education Commission examining the options for the development of the Sierra Leonean education workforce. (Due for imminent publication at time of submission).

- 2 Estimated 85% contribution to a background paper on Post-Primary Education in Sierra Leone for the Overseas Development Institute contributing to the MasterCard Foundation Report on Secondary Education in Africa. (Due for imminent publication at time of submission).

- 3 Guest blog post for the Global Initiative to End All Corporal Punishment of Children, showcasing EducAid's work: <https://endcorporalpunishment.org/our-teachers-normally-used-to-beat-us-but-that-has-ended-now/>